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**SECOND EDITION**

**MAXIMUM  
RETENTION  
IN  
MINIMAL  
TIME**

# **Last days revision notes for IMM (Medicine)**

- Contains one liners and high yield points from all the units from Pass medicine, past test and Davidson
- All high yield and repeated controversial mcqs from IMM past papers with proper reference
- This book will help you to revise your course in short period of time

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# CARDIOVASCULAR SYSTEM

- **LQT syndrome** (long QT syndrome) → Delayed repolarization of ventricles (potassium channels).
- **LQT1** is associated with → Swimming and exertional syncope.
- **LQT2** is associated with → Exercise, **Auditory** stimuli and emotional stress.
- **LQT3** occurs → Occurs at night or at rest.
- **Sotalol** is best avoided in Long QT syndrome.
- **R of Long QT** is → Beta blockers, and implantable cardioverter defibrillator.
- Drugs which prolong QT interval actually block "K" channels.
- Most common cause of death in HOCM → ventricular arrhythmias
- **Associations of HOCM** → Friedrich's Ataxia and WPW syndrome.
- **Non valvular chronic AFIB** → If the patient is stable with CHA<sub>2</sub>DS<sub>2</sub>-VASc score of zero then No treatment is required. Aspirin is no longer recommended for reducing frequency of stroke in atrial fibrillation.
- Strongest risk factor for developing endocarditis is → previous history of endocarditis.
- In intravenous drug users endocarditis typically affects → Tricuspid valve.
- **Causes of culture negative Endocarditis** is →
  - Prior antibiotic therapy.
  - *Coxiella burnetii*
  - *Brucella*
  - *Bartonella*
  - HACEK (*Haemophilus*, *Actinobacillus*, *Cardiobacterium*, *Eikenella*, *Kingella*).
- Following prosthetic valve surgery staph epidermidis is the most common cause of infective endocarditis. After 2 months the spectrum of organism causing infective endocarditis return to the normal.
- Amongst cyanotic heart diseases TGA is most common at birth and TOF is more common overall.
- Amongst acyanotic heart diseases VSDs are more common than ASDs but in adult population ASD is the most common new diagnosis.
- TOF generally presents at 1 to 2 months and CXR shows oligemic lung fields.
- **WPW syndrome** →  
Wide QRS complex, short PR interval and slurred upstroke in lead 2 (delta wave).  
**Type A** → Left sided pathway (Right axis deviation with dominant R wave in V1).  
**Type B** → Right sided pathway (Left axis deviation with non-dominant R wave in V1).  
**Associations of WPW syndrome** → "THEMS" thyrotoxicosis, HOCM, Ebstein anomaly, Mitral valve prolapsed, Secundum ASD.  
**R of WPW** is → **treatment of choice** is Radiofrequency ablation. Medical therapy includes → Amiodarone, flecainide and sotalol (better to avoid in WPW with AFIB).
- Most common type of WPW is type B with right sided pathway and left axis deviation.
- Most common drug used in CPR is → Epinephrine > Amiodarone.
- Immediate management in pulmonary edema is propped up and O<sub>2</sub> and main stay of Treatment is Diuretic.
- **RBB with Hemiblock** → **Bifascicular**.
- **RBB + hemiblock + prolonged PR interval** (1<sup>st</sup> degree heart block) → **Trifascicular**.



**MCQ: Indication for pacemaker in acute MI is:**

- Bifascicular block
- RBBB with first degree heart block
- LBBB with first degree heart block
- Old bifascicular block with first degree heart block

**ANS: D**

**Explanation;**

#### Heart block management

- 1<sup>st</sup> Degree and Mobitz type 1 generally requires no treatment.
- Inferior wall MI with Complete heart block → Atropine first line.
- Anterior wall MI with heart block → Pacemaker first line
- For mobitz type 2 and complete heart block TPM is generally indicated
- For indications For TPM in these two conditions

**Look at adverse signs that are**

- Shock (systolic BP less than 90)
- Depressed consciousness
- Chest pain
- pulmonary edema
- Potential risk of asystole When **there is**
  - AR-R interval greater than 3 second
  - Qrs complex width greater than 4 small squares
  - Past history of asystole

#### Absolute indications of temporary pace maker

If heart block is because of Anterior wall MI we pass TPM without looking at adverse signs.

Symptomatic bradycardia not responding to atropine.

Trifascicular block prior to surgery.

#### Indications for permanent pace maker

- Sick sinus syndrome
- MI leading to heart block not resolved in 14 days and others

**MCQ: Patient presented chest pain, ECG shows inferior wall MI, His Heart rate is around 40 / minute what best initial treatment is**

- Inj atropine
- inj adrenaline
- Pace maker

**ANS: A.**

#### **step wise management of Pulmonary edema**

- prop up position
- o<sub>2</sub> inhalation
- morphine
- diuretics

#### **Quick HIT**

TEE and CT scan are the preferred tests in the diagnosis of acute aortic dissection. TEE is very accurate and is ideal in the unstable patient because it can be performed at the bedside.

#### Lets Summarise Infective Endocarditis

- If abscess association is asked then → Aortic valve is more common site
- If we talk about most common valve involved in infective endocarditis then its Mitral.
- if we talk about most common congenital cardiac abnormality leading to IE then it is → VSD
- Interestingly IE itself causes regurgitation and can be caused by regurgitation..
- Leading cause of death in infective endocarditis is → LVF

**REFERENCE: TOPAL CARDIOLOGY.**



- 15 year old child presented with difference in BP between arms and legs with a murmur **heard over the back**. What is your diagnosis → **Coarctation of aorta**. The typical heart murmur that is associated with a coarctation is a systolic murmur that is loudest in the back below the left shoulder blade (scapula).
- Mitral stenosis most commonly presents with SOB.
- Aortic stenosis most commonly presents with → syncope and angina.
- Most common heart valve calcified is → Aortic.
- In order to diagnose Aortic dissection in **stable** patient best test is → CT as its readily available then MR.
- In order to diagnose aortic dissection in **unstable** patient best test is → TEE (Trans-esophageal ECHO).
- **Hyperlipidemia primary prevention:**
  - Above 85 years → Start statins.
  - Below 85 years → Use QRISK2 score for risk assessment.
  - Identify people above 40 years who are at risk of CVD i.e. 10 year risk of greater than 10%.

**Exceptions: QRISK2** score is not used in the following and they are directly started on primary prevention.

- T1DM patient of 40 year of age or if he is having diabetes for 10 years
- CKD with eGFR <60ml/min.
- Familial hyperlipidemia.

**Note** → Full lipid profile is done before starting therapy.

**R Atorvastatin 20 mg is recommended as primary prophylaxis.**

#### ➤ **Hyperlipidemia secondary prevention**

All patients with established CVD should be taking statins.

**R Atorvastatin 80 mg is started as secondary prevention.**

- Both carvedilol and bisoprolol among beta blockers has shown to reduce mortality in patient with stable cardiac failure.
- **Drugs that improve mortality in patient with chronic heart failure:**
  - First line** → ACEis plus beta blockers
  - 2<sup>nd</sup> line** → Aldosterone Antagonist Plus ARBS plus Hydralazine plus Nitrates.
  - 3<sup>rd</sup> line** → Cardiac Resynchronization therapy (indications are LBBB, QRS >160 ms and EF <35).
- **Management of Atrial fibrillation**
- If patient is hemodynamically unstable synchronized DC cardioversion is done start from 100 Joule
- if patient is stable we do either rate or rhythm control

#### **Indication for rhythm control**

- ① First time presentation
- ② Young age
- ③ Reversible cause
- ④ Cardiac failure

#### **How to do rhythm control**

- ① If patient present in first 48 hour Do cardioversion either pharmacological by amiodarone or flecainide (exclude structural heart disease) or DC cardioversion
- ② If patient present after 48 hrs Do TEE if no LV clot do cardioversion if clot is there anticoagulate the patient and do elective cardioversion after 4 weeks

**For rate control we put patient on, betablocker, calcium channel blocker or digoxin**

- **Note:** Ivabridine is contraindicated in atrial fibrillation.
- PCWP measures → Left atrial pressure.
- JVP measures → Right atrial pressure.
- Atrial flutter mechanism is → Macro-reentry current.
- Three months after anterior wall MI patient has Q waves in anterior leads with persistent ST elevation what is the cause → Ventricular aneurysm.
- Risk of death during coronary angiography is → 1 in 1000.
- Risk of MI in coronary angiography is → 5 in 10,000.
- Most common type of Thyroiditis is Hashimoto thyroiditis.
- **MCQ: Most common complication of subacute infective endocarditis is :**
  - a. Rupture of valve leaflets
  - b. Myocardial abscess
  - c. LVF
  - d. Sepsis in lungs
- ANS: A**
- **MCQ: Leading cause of death in infective endocarditis is :**
  - a. Rupture of valve leaflets
  - b. Myocardial abscess
  - c. LVF
  - d. Sepsis in lungs
- ANS: C**
- In turner syndrome frequency of → Bicuspid aortic valve > Coarctation of aorta
- Incidence of autoimmune thyroiditis and crohns disease increases in turner syndrome.
- **Management of SVT :**
  - Stable patient:** initially Valsalva maneuver, then IV adenosine (6mg → 12 mg → 12mg),#
  - asthmatic then** → verapamil .
  - If unstable:** DC cardioversion .
  - Prevention of episodes :** beta blockers and RFA
- **Atrial flutter** is more resistant to pharmacological cardioversion and most sensitive to Electrical cardioversion and low energy levels are required for cardioversion. RFA of tricuspid valve isthmus is curative.
- Most common indication for cardioversion is → atrial fibrillation.
- In case of NSTEMI coronary angiography should be performed within 96 hours, and as soon as possible in unstable patient.
- **Infective Endocarditis:**
  - Commonest Organisms causing Infective Endocarditis → Bacteria
  - Commonest cause after prosthetic valve replacement for 2 months → staph epidermidis then viridians.
  - Commonest cause of Acute IE → Staphylococcus Aureus
  - Commonest cause of Sub-Acute IE → Viridans streptococci
  - Commonest, Overall, cause of Native (Normal / Abnormal) Valve IE → Viridans streptococci
  - Commonest cause of Native valve IE in Neonates → Staphylococcus Aureus
  - Commonest cause of Native Valve IE in >1 month old patient → Viridans streptococci
  - Commonest, Overall, cause of Prosthetic valve IE → Staph epidermidis.
  - Commonest, Overall, cause of IE in intravenous drug abuser (IVDA) → Staphylococcus Aureus
  - Commonest cause of Right Sided IE in IVDA → Staphylococcus Aureus
  - Commonest cause of Left Sided IE in IVDA → Enterococci (E. Faecalis > Most Common)



- Commonest cause of IE in Health Care Associated patients → Staphylococcus Aureus
- Commonest cause of IE in patients with IV Catheters → Staphylococcus Aureus
- Commonest cause of IE in patients with Urinary Catheters → Enterococci
- Commonest cause of IE in patients with Polyps/CR Ca Streptococcus Gallolyticus (formerly called S. Bovis biotype 1)
- Commonest cause after Tooth Extraction / Dental Procedure → Streptococcus Mutans.
- Libman sac endocarditis SLE most commonly involve → mitral and aortic valve.
- Non bacterial sterile endocarditis are associated with → SLE and tumors .

### References :

1. Braunwald's Heart Diseases, 10/e, 64/chap
2. Harrison's Principles of Internal Medicine, 19/e, 155/chap
3. Robbins & Cotran's Pathologic Basis of Disease, 9/e, 12/chap.

### ➤ POOR prognostic factors of infective endocarditis:

Staph aureus

Culture negative endocarditis

Low complement levels

Prosthetic heart valves .

#### **Indications for surgery :**

Severe valvular incompetence

Aortic root abscess

Infections resistant to antibiotics /fungal infection

Cardiac failure

Recurrent emboli besides using antibiotics .

- 3<sup>rd</sup> heart sound is normal variant below 40 years and it represents more likely dilated cardiomyopathy above this age group.
- 3<sup>rd</sup> heart sound heard in constrictive pericarditis is called pericardial knock.
- In HOCM double apical impulse is felt because of palpable S4.

### ➤ Prosthetic valves

- a. **Bioprosthetic valves:** Older patients greater than 65 years for aortic and greater than 70 years for mitral.

**Advantage:** No long term anti coagulation is needed .warfarin only for 3 months followed by low dose aspirin. **Disadvantage** Is structural deterioration and calcification.

- b. **Mechanical valves:** Young patients. Low risk of failure with high risk of thrombosis. Long term anticoagulation → **Warfarin plus aspirin.**

**Target INR:** 2 to 3 for Aortic

2.5 to 3.5 for Mitral.

#### **Management of aortic valve stenosis:**

If asymptomatic observe the patient.

If symptomatic valve replacement.

If the patient is asymptomatic and there is valve gradient of > 50 with features of LVF then consider valve replacement as well.

### ➤ Pregnancy and mitral valve stenosis:

Moderate to severe mitral valve replacement should be corrected before pregnancy.

If the patient becomes pregnant and she is having severe mitral stenosis then balloon valvuloplasty is the intervention of choice preferably in 3<sup>rd</sup> trimester. **Refrence:** CMDT.



**Balloon valvuloplasty in mitral stenosis:** It is performed when patient is too ill, pregnant or cannot undergo cardiac surgery.

### Mitral valve replacement:

#### **Indications:**

Moderate to severe mitral stenosis NYHA III/IV.

Severe mitral stenosis (mitral valve area less than 1 cm).

Severe pulmonary hypertension.

- Pregnancy induced hypertension does not occurs before 20 weeks of gestation.
- Woman who is at high risk of developing preeclampsia should take aspirin 75 mg OD from 12 weeks till birth of baby.
- **Primary Pulmonary hypertension:**

It is diagnosed by → **Cardiac catheterization.**

It is defined as pulmonary arterial pressure of greater than 25 mmhg at rest and 30 mmhg after exercise.

**S/S:** Most important symptom is exceptional dyspnea. Loud P2 and left parasternal heave due to right ventricular hypertrophy.

#### Treatment

Depends on vasodilator testing. If response is there then start CCBs if no response then prostacyclin analogues, endothelin receptor antagonist (bosentan) and phosphodiesterase inhibitors (sildenafil) are given.

- Electrical alternans is seen in → cardiac tamponade.
- Pulses alternans is seen in cardiac failure.

#### ➤ **Poor prognostic indicators in HOCM**

Young age at presentation

Family history of sudden cardiac death

Abnormal blood pressure changes during exercise.

Non sustained VT.

Abnormal blood pressure changes during exercise.

Increased septal valve thickness..

#### ➤ **ECG: axis deviation**

##### **Causes of right axis deviation (RAD):**

- Right ventricular hypertrophy
- Left posterior hemiblock
- Chronic lung disease
- Pulmonary embolism
- Ostium secundum ASD
- Wolff-Parkinson-White syndrome\* - left-sided accessory pathway
- Normal in infant < 1 years old
- Minor RAD in tall people

##### ➤ **Causes of left axis deviation (LAD):**

- LBHB
- Left anterior hemiblock
- Wolff-Parkinson-White syndrome\* - right-sided accessory pathway
- Hyperkalaemia
- Congenital: Ostium primum ASD, tricuspid atresia
- Minor LAD in obese people
- In the majority of cases, or in a question without qualification, Wolff-Parkinson-White

- Syndrome is associated with left axis deviation
- ECG: normal variants
- **The following ECG changes are considered normal variants in an athlete:**
  - Sinus bradycardia
  - First degree heart block
  - Junctional rhythm
  - Wenckebach phenomenon.
- Long QT interval syndromes leads to torsades de points ( polymorphic ventricular tachycardia )
- DOC for torsades de points is → IV magnesium sulphate.
- In ventricular tachycardia → verapamil is contraindicated as it may precipitate ventricular fibrillation.
- **Narrow complex tachycardia :**
  1. **Regular:** SVT and atrial flutter
  2. **Irregular:** A-Fib , atrial flutter with variable conduction and MAT.
- **Broad complex tachycardia :**
  1. **Regular:** VT, SVT with aberrancy, WPW with BBB.
  2. **Irregular:** AFib with BBB.
- **Pericarditis:** most common cause coxsackie virus.  
**ECG changes:** widespread ST elevation with **UPWARD** concavity. **PR depression** is more specific for acute pericarditis.
- BNF recommend starting atenolol at dose of 100 mg /day in angina.
- **Bisferians pulse:** Double pulse two systolic peaks are seen in → mixed aortic valve disease.
- **Jerky pulse** → HOCM.
- Endocardial cushion defect is most common abnormality seen in → Down syndrome.
- Atlanto-axial instability is seen in → Down syndrome and rheumatoid arthritis.
- Aortic root abscess leads to → prolong PR interval.
- **ECG: Prolonged PR interval is seen in**
  - 1) Idiopathic
  - 2) Ischemic heart disease
  - 3) Digoxin toxicity
  - 4) Hypokalaemia\*
  - 5) Rheumatic fever
  - 6) Aortic root pathology e.g. abscess secondary to endocarditis
  - 7) Lyme disease
  - 8) Sarcoidosis
  - 9) Myotonic dystrophy
  - 10) Athletes
- **Primary pulmonary hypertension** more common in females .20-40 years of age .e
- Non pulsatile jvp is seen in SVC obstruction.
- Giant a wave is seen tricuspid stenosis , pulmonic stenosis and PAH.
- Cannon a wave is seen in CHB, ventricular ectopic beats and PAH.
- Giant V wave is seen in tricuspid regurgitation .
- A wave is absent in → Atrial fibrillation.
- Rapid Y descent is seen in constrictive pericarditis.
- y descent is absent in cardiac tamponade.
- C wave represent closure of tricuspid valve .
- Y descent represent opening of tricuspid valve .



- Most common cardiac abnormality associated with paradoxical emboli is → PFO

Causes of a loud S2: → Hypertension: systemic (loud A2) or pulmonary (loud P2) and Hyperdynamic states

Causes of a soft S2 → AS

Causes of fixed split S2 → ASD

Causes of a widely split S2 → RBBB, Deep inspiration, Pulmonary stenosis, Severe mitral regurgitation.

Causes of a reversed (paradoxical) split S2 (P2 occurs before A2) → LBBB, Severe aortic stenosis, Right ventricular pacing, WPW type B (causes early P2), Patent ductus arteriosus

### Stents

- Two types of stents are there:

- Drug eluting stent**: it is coated with paclitaxel and rapamycin. it inhibits local tissue growth and resistant to Restenosis. But there is increased risk of thrombosis.
- Bare metal stent**: Increased risk of restenosis.
- Following insertion** Aspirin is continued indefinitely and length of clopidogril treatment depends on the type of stent placed.

- **Stent thrombosis:**

It occurs most commonly in the first month of valve replacement, Symptoms appear like **Myocardial infarction**.

- **Restenosis of stent:**

It happens after 3 to 6 months symptoms appear like **Angina**.

- **Coarctation of aorta:**

Most common in **male** despite association with turners.

Mid systolic click maximum over the **back**

In infancy it presents as heart failure.

In adults it presents as hypertension

### **Associations:**

Turner

Bicuspid aortic valve

Berry aneurysm

Neurofibromatosis.

- In HOCM 4<sup>th</sup> heart sound is palpable leading to double apical impulse and 4th heart sound correlates with P wave on Ecg.

- VSD is related to pan systolic murmur and the original murmur disappears once Eisenminger syndrome develops.

- **Eisenminger syndrome:** it is characterized by reversal of left to right shunt. Seen in VSD, ASD and PDA.

### **Feature:**

Original murmur disappears.

Cyanosis.

Clubbing.



Right ventricular failure.

Hemoptysis, embolism.

- BNP is produced by left ventricle. It is used as a marker of prognosis in CCF. Good treatment lowers its level. It has good negative predictive value and lower less than 100 pg/ml makes a diagnosis of heart failure unlikely.

- **In HOCM** to treat ventricular arrhythmias best treatment is → implantable cardioverter defibrillator.

Medical therapy includes: amiodarone, BBs, CCBs like verapamil for symptoms Endocarditis prophylaxis.

**Drugs to avoid:** Nitrates, ACE-inhibitors and ionotropes (digoxin).

- **Tricuspid regurgitation ;**

#### S/S

Pan systolic murmur

Giant V waves in JVP

Pulsatile hepatomegaly

Left parasternal heave .

#### **Causes**

Right ventricular dilatation.

COPD

Pulmonary hypertension

RHD

Carcinoid syndrome

Infective endocarditis IV drug users

Ebstein anomaly.

- During exercise cardiac output increases by 3 to 5 folds, Systolic BP increases, diastolic pressure decreases leading to wide pulse pressure.

- **ECG features of Digoxin toxicity :**

Down sloping ST depression (reverse tick sign)

Flat or inverted T waves

Short QT interval

Arrhythmias.

- **MCQ: You are asked to urgently review 61-year-old female on the cardiology ward Due to difficulty in breathing. On examination she has a raised JVP with bilateral Fine crackles in the mid zones. Blood pressure is 94/60 mmHg and the pulse is 150. ECG confirms atrial fibrillation. What is the most appropriate management?**

- IV amiodarone
- Synchronized DC cardioversion
- IV flecainide,
- Oral digoxin
- IV digoxin

**ANS B** (Afib with RVR and hemodynamic instability) Afib with RVR, hemodynamic instability and altered consciousness are indications for DC cardioversion.

- A 78 year old woman with no past medical history of note was diagnosed as case of A-Fib for three days, with presenting complaints of SOB, pulse of 130, blood pressure of 108/70, O<sub>2</sub> of 94% and bibasilar lung crepts. What is most important therapy to control heart rate?

- Amiodarone
- Flecainide
- Verapamil
- Digoxin
- Bisoprolol.

**ANS D** (Patient age is greater than 60 and in question they are asking rate control so proffered drug to control rate in case of atrial fibrillation with coexistent heart failure (bilateral crackles) is Digoxin.

- **MCQ: Differentiating feature between cardiac tamponade and constrictive pericarditis**

- Kussmaul sign
- Pulsus paradoxus
- Raised JVP
- Muffled heart sounds

The key differences between cardiac tamponade and constrictive pericarditis are summarised in the table below:

	Cardiac tamponade	Constrictive pericarditis
↑ JVP	NO Y descent	X + Y present
Pulsus paradoxus	Present	Absent
Kussmaul's sign	Rare	Present
Characteristic features		Pericardial calcification on CXR (dt: TB, irradiation)

**ANS: B**

A commonly used mnemonic to remember the absent Y descent in cardiac tamponade is **TAMponade = TAMpaX**

- **WPW with AFib:** Adenosine, verapamil and digoxin should be avoided in AFIB in case of WPW as they can precipitate VT or VF.  
**Medical therapy:** Flecainide, amiodarone and sotalol.  
**Sotalol** should not be given in → LQT syndrome  
**RFA of accessory pathway:** it is the definitive treatment.
- **Hypothermia ECG findings:** long QT and LONG QR. J wave (small hump at end of QRS complex) bradycardia and atrial and ventricular arrhythmias.



- **Hypokalemia:** also presents with long PR and long QT interval and u wave on ECG.
- In hyperkalemia left axis deviation may be seen along with other ECG findings.
- TIA → Give aspirin immediately then Clopidogril life long as a treatment.
- Afib leading to TIA → anticoagulation (warfarin. With heparin cover).
- Afib leading to stroke → CT if ischemic start Aspirin and anticoagulation is started after 14 days.
- **Long QT syndrome management :**
  - If QTc is less than 500 ms → beta blockers is best management
  - If QTc is greater than 500 ms or previous of cardiac arrest then best management is ICD.
- Atrial fibrillation is most common with ASD then VSD.
- Tachyarrhythmia's are the most common cause of death following MI. Bradyarrhythmia is most common following inferior wall MI.
- Dressler syndrome: occurs 2 to 6 weeks post MI against the antigenic proteins found on myocardium .it is characterized by fever pleuritic chest pain and raised ESR.
- Left ventricular aneurysm is associated with → Persistent ST elevation.
- Mitral valve regurgitation associated with MI is most common after posterior-inferior wall MI.
- In VT (pulse less) / VF inj Epinephrine (dose is **1 mg**) is given every 3 to 5 minutes and amiodarone (300mg) is given after the 3<sup>rd</sup> shock. Every shock is followed by 2 minutes of CPR.
- Pulse less electrical activity is treated by 2 minutes of CPR rather than 3 prior to reassessment of rhythm.
- Wilson disease has no association with HCC and dilated cardiomyopathy.
- HOCM → Beta myosin heavy chain protein and myosin binding protein C.
- **Atrial myxoma:** Most common in female ,most common location left atrium .arises from fossa ovalis having typical mid diastolic murmur (tumor plop).
- **Aortic dissection:** it can lead to inferior pattern of MI due to right coronary involvement.
- **Gallop rhythm** is one of the most specific and early sign of LVF.
- **Thienopyridine:** They include clopidogril, prasugril, ticagrelor and ticlopidine. inhibit p2Y<sub>12</sub> ADP receptors and as a result inhibit platelet activation  
Concurrent use of PPIs make them ineffective although **Lansoprazole** is better option.
- **Features suggestive of VT rather than SVT with aberrant conduction :**
  - Positive concordance in chest leads.
  - AV dissociation.
  - Fusion or capture beats.
  - Marked left axis deviation
  - History of IHD
  - Marked left axis deviation
  - Lack of response to adenosine and carotid massage
  - QRS >160 ms
- **Regular cannon A waves:** VT and AVNRT.



➤ Irregular cannon A waves: CHB.

## ➤ **Murmurs**

### Ejection systolic:

1) Aortic stenosis (ejection systolic murmur radiating to the carotid area).

2) Pulmonary stenosis,

3) Fallot's (as only P2).

4) HOCM.

5) ASD.

### Holosystolic (pansystolic):

1) Mitral / Tricuspid regurgitation (high-pitched and 'blowing' in character).

2) VSD ('harsh' in character).

### Late systolic:

1) Mitral valve prolapse

2) Coarctation of aorta

### Early diastolic:

Aortic regurgitation (high-pitched and 'blowing' in character)

Graham-Steel murmur (pulmonary regurgitation, again high-pitched and 'blowing' in character)

### Mid-late diastolic:

1) Mitral stenosis ('rumbling' in character)

2) Austin-Flint murmur (severe aortic regurgitation, again is 'rumbling' in character)

### Continuous machine-like murmur:

PDA.

➤ Dilatation of aortic sinuses is most common cardiac defect seen in **Marfan syndrome**, even more common than MVP. Marfan syndrome is also associated with superior temporal lens dislocation and repeated pneumothoraces (Tall man with sudden onset of SOB).

➤ Marfan syndrome requires regular **ECHO surveillance** for aortic root pathology.

➤ **Double pulse** also called bisferiens pulse (two systolic peaks) are seen in mixed aortic valve disease.

➤ **Double apex beat** is seen in → HOCM (palpable S4); it is also associated with jerky pulse.

➤ **Pulses alternans**: strong pulse followed by weak pulse seen in left ventricular failure.

➤ **Slow rising pulse**: pathognomonic of AS.

➤ **If a patient is presented with NSTEMI or unstable angina**

And 6 months mortality risk is greater than 3% then do angiograph in 96 hours of hospital admission and 6 months mortality risk is less than 3% then clopidogril for 12 months.

➤ Most accurate method to determine left ventricular function is → MUGA scan.

➤ **Blood pressure targets for T2DM:**

End organ damage present → <130/80 mmHg

Other wise → 140 /80 mmHg.

➤ If a patient present with STEMI with very high BP of 200 /110 → always consider IV GTN before undergoing thrombolysis. Very high BP is contraindication for Thrombolysis.

- Centrally acting antihypertensive are Monoxidine, Clonidine and Methyldopa.
- Hydralazine, minoxidil and diazoxide is arterial dilator and sodium nitroprusside is arterial and venous dilator.
- Ostium primum defect (ASD) → LAD.
- Ostium secundum defect (Asd) → associated with RAD.
- Both ostium primum and ostium secundum defect leads to → RBBB.
- **Causes of left Bundle branch block**
  - ⊕ IHD
  - ⊕ AS
  - ⊕ Digoxin toxicity, hyperkalemia,
  - ⊕ Cardiomyopathy
  - ⊕ Idiopathic fibrosis.
- **Brugada syndrome:** It is basically sodium channelopathy, which is encoded by SCN5A gene. It may present with sudden cardiac death. ECG: shows partial RBBB with CONVEX ST elevation in V1 to V3 followed by negative T wave.
- **Causes of ST elevation :**
  - ⊕ Myocardial infarction
  - ⊕ Pericarditis
  - ⊕ Normal variant
  - ⊕ Left ventricular aneurysm
  - ⊕ Prinzmetal angina
  - ⊕ Rare subarachnoid hemorrhage.
- **Mitral stenosis:**

Normal mitral valve area is 4 to 6 cm<sup>2</sup>. Severe mitral stenosis mitral valve area is less than 1 cm<sup>2</sup>.

**Features:** Loud S1, Opening snap, Presystolic **accentuation**, low volume pulse, Malar flush.

**Severe MS:** It is characterized by increase in length of murmur. Opening snap becomes closer to S2.

**X-ray shows:** Double right heart border.
- The use of beta blockers to treat hypertension has declined sharply because it is less likely to prevent stroke and causes impairment of glucose tolerance.
- Long term prognosis in stable angina is improved by → **Aspirin**. (Ace inhibitors and BBs have significant role in MI but modest role in stable angina.
- In TOF the ejection systolic murmur is caused by → pulmonic stenosis (VSD does not usually cause any murmur). Cyanotic episodes are helped by beta blockers as they reduce **infundibular spasm**.
- **Indications for ICD :**
  - ⊕ Long QT syndrome
  - ⊕ Hypertrophic obstructive cardiomyopathy
  - ⊕ Previous cardiac arrest due to VT and VF.
  - ⊕ Previous MI with non sustained VT on 24 hour holter monitor (Ejection fraction less than 35%).



- Brugada syndrome.
- **Catecholamine polymorphic ventricular tachycardia:**  
Mutation in ryanodine receptors of cytoplasm, Autosomal dominant, present before 20 years leads to sudden death. Rx BBs and ICD.
- In HOCM ejection systolic murmur increases on valsalva maneuver and decreases on squatting.
- **Features of cholesterol emboli**
  - Eosinophilia
  - Pruritus
  - Renal failure
  - Leuko reticularis
- Lithium toxicity develops when its level is greater than 1.5 mmol/L, in the form of coarse tremors, hyperreflexia, acute confusion seizures and coma.
- **Dystrophia myotonica:** Prolong PR interval is seen in 20 to 40 % of patients. It can lead to cardiomyopathy and heart block. Frontal balding bilateral ptosis cataract, testicular atrophy and CTG Trinucleotide repeat.
- **Paradoxical thrombus:** For a right side thrombus (DVT) to cause left side embolism (stroke) → Patent foramen ovale is more common (ASD is less common cause so mark PFO in exam)
- Woman with history of pulmonary hypertension should avoid getting pregnant because of very high mortality.
- **Takayasu arthritis**  
Typically occurs in Asian female having symptoms of malaise headache unequal blood pressure in upper limbs carotid bruit and some times absent pulses in upper limbs.
- **Non invasive method that provides the most accurate measurement of whether the patient has coronary artery disease** → Contrast enhanced CT (assessing the lumen of coronary artery).
- **Cardiac MR:** It has now become the **gold standard** to provide structural information of heart, intracardiac mass and differentiating forms of cardiomyopathy.
- **Age less than 80 years and BP is greater than 130/85 → treat**
- **Age greater than 80 years and BP is greater than 150/90 then treat.**
- Biological valves → warfarin for 3 months and aspirin lifelong.
- Mechanical valves → Life long aspirin and warfarin.
- **Amiodarone:** Serum potassium should always be checked to detect **hypokalemia** before starting amiodarone. It has half life of 20 to 100 days amiodarone can lead to prolonged QT interval.
- Window period for thrombolysis in STEMI is → 12 hours.
- Rheumatic fever involves large joints (Migratory non deforming). It kisses the joints and kills the heart.



Murmurs	Inspiration & Expiration	Increased Preload (Rapid squatting, Passive leg raising)	Decreased Preload (Valsalva, Standing)	Increased Afterload (Handgrip)	Decreased Afterload (Amyl nitrite)
Most murmurs	↑ Right-sided murmurs on inspiration; ↑ Left-sided murmurs on expiration	↑ Increase	↓ Decrease	Stenotic murmurs (except MS) : ↓ Regurgitant murmurs : ↑	Stenotic murmurs (except MS) : ↑ Regurgitant murmurs : ↓
A5	↑ on expiration	↑ Increase	↓ Decrease	↓ Decrease	↑ Increase
MVP	No effect	↓ Decrease with later onset click	↑ Increase with early onset click	↓ Decrease with later onset click	↑ Increase with early onset click
HOCM	No effect	↓ Decrease	↑ Increase	↓ Decrease	↑ Increase

- Most common cause of culture negative endocarditis is → coxiella and brucella.
- Echo findings of cardiac tamponade are diastolic collapse of free wall of right atrium and right ventricle.
- Hyperkalemia leads to cardiac arrest in Diastole and hypercalcemia leads to cardiac arrest in systole.
- Stop smoking has greatest benefit in reducing cardiovascular risk factors.
- Complete heart block from inferior wall MI does not need pacing most of time unlike CHB from anterior wall MI
- 2 to 6 weeks MI patient is having pleuritic chest pain, pericardial friction rub and Raised ESR → Dressler syndrome (Auto-immune condition and needs NSAIDs as management if resistant then steroids is given).
- PCI is gold standard treatment in ST elevation MI within 12 hours.
- Worse prognosis of carcinoid syndrome is → valvular heart disease.
- SVT plus asthma → Give verapamil.
- If you are not able to read ECG in ETT then do thallium scan.
- Atrial fibrillation and valvular heart disease start warfarin.
- Atrial fibrillation and non valvular heart disease calculate CHA<sub>2</sub>DS<sub>2</sub>VASc score before starting anticoagulation.
- Atrial fibrillation plus TIA → start warfarin
- Atrial fibrillation Plus stroke start Warfarin after → 14 days .
- Pharmacological cardioversion in AF if no structural heart disease → Flecainide.

- Pharmacological cardioversion in AF if there is structural heart disease → Amiodarone.
- JVP shows giant v waves in tricuspid regurgitation
- ECG in ASD:
  - Ostium primum → RBBB plus left axis deviation
  - Ostium secundum → RBBB plus right axis deviation.
- MCQ: Swan ganz catheter does not measure directly
  - a. Cardiac output
  - b. Mixed venous oxygen saturation
  - c. Pulmonary artery resistance
  - d. Pulmonary artery pressure
  - e. Left ventricular end diastolic pressure

ANS: E

## Bailey & Love's SHORT PRACTICE of SURGERY

25<sup>th</sup>  
EDITION

Edited by  
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The pulmonary artery (or 'Swan-Ganz') catheter (PAC) is traditionally regarded as the gold standard method of cardiac output measurement at the bedside. The PAC is a balloon-tipped catheter, which is 'floated' through the great veins, right atrium and right ventricle until the tip lies in the pulmonary artery. Cardiac output is measured intermittently by the thermal indicator dilution technique, in which a bolus of cold fluid is injected proximal to the temperature sensor. Direct measurements include cardiac output, pulmonary artery pressure, central venous pressure, pulmonary artery occlusion pressure and mixed venous oxygen saturation. Derived data include systemic vascular resistance, oxygen delivery and oxygen con-

- Dentistry in warfarinised patients - check INR 72 hours before procedure, proceed if INR < 4.0
- Bendroflumethiazide - inhibits sodium reabsorption by blocking the Na<sup>+</sup>-Cl<sup>-</sup> symporter at the beginning of the distal convoluted tubule
- The first-line management of SVT is vagal manoeuvres: e.g. Valsalva manoeuvre or carotid sinus massage
- B-type natriuretic peptide is mainly secreted by the ventricular myocardium
- Statins inhibit HMG-CoA reductase, the rate-limiting enzyme in hepatic cholesterol synthesis
- Patients with very poor dental hygiene - Viridans streptococci e.g. Streptococcus sanguinis
- Primary percutaneous coronary intervention is the gold-standard treatment for ST-elevation myocardial infarction

*Last Days Revision Notes for IMM Medicine & MRCP 2nd edition*



- Bosentan - endothelin-1 receptor antagonist Prostacyclins is used in the treatment of primary pulmonary hypertension
- JVP: giant v waves in tricuspid regurgitation
- Prosthetic heart valves - antithrombotic therapy: bioprosthetic: aspirin and mechanical: warfarin + aspirin
- Newly diagnosed patient with hypertension (> 55 years) - add a calcium channel blocker
- 'Provoked' pulmonary embolisms are typically treated for 3 months
- Poorly controlled hypertension, already taking an ACE inhibitor and a calcium channel blocker - add a thiazide diuretic
- Complete heart block following a MI? - right coronary artery lesion
- Endothelin receptor antagonists decrease pulmonary vascular resistance in patients with primary pulmonary hypertension
- IV magnesium sulfate is used to treat torsades de pointes
- The two level Well's score can be used in patients presenting with signs and symptoms suggestive of PE to guide the next investigation
- J-waves are associated with hypothermia
- HOCM is the most common cause of sudden cardiac death in the young
- Prosthetic valve endocarditis caused by staphylococci → Flucloxacillin + rifampicin + low-dose gentamicin
- Prominent V waves on JVP → tricuspid regurgitation
- When treating angina, if there is a poor response to the first-line drug (e.g. a beta-blocker), the dose should be titrated up before adding another drug
- Angiotensin-receptor blockers should be used where ACE inhibitors are not tolerated
- Irregular cannon 'a' waves points towards complete heart block
- Warfarin - clotting factors affected mnemonic - 10, 9, 7, 2
- Infective endocarditis - **indications for surgery**: severe valvular incompetence, aortic abscess (often indicated by a lengthening PR interval), infections resistant to antibiotics/fungal infections, cardiac failure refractory to standard medical treatment, recurrent emboli after antibiotic therapy.
- Gallop rhythm (S3) is an early sign of LVF
- Ischaemic changes in leads V1-V4 - left anterior descending
- Magnesium sulphate - monitor reflexes + respiratory rate
- Amiodarone has a very long half-life of 20-100 days - loading doses are therefore often needed
- The CURB-65 score can be used for assessing the prognosis of a patient with community acquired pneumonia
- Poorly controlled hypertension, already taking an ACE inhibitor, calcium channel blocker and a standard-dose thiazide diuretic.  $K^+ > 4.5 \text{ mmol/l}$  - add an alpha- or beta-blocker
- Prinzmetal angina - treatment = dihydropyridine calcium channel blocker
- Angiotensin II receptor blockers block the effects of angiotensin 2 at the AT1 receptor
- Women with pulmonary hypertension should avoid becoming pregnant due to very high mortality levels

- Tachycardia with a rate of 150/min → atrial flutter
- A single episode of paroxysmal atrial fibrillation, even if provoked, should still prompt consideration of anticoagulation
- A prolonged PR interval - aortic root abscess
- Hypocalcemia is associated with QT interval prolongation; Hypercalcemia is associated with QT interval shortening
- Infective endocarditis - streptococcal infection carries a good prognosis
- Löffler's syndrome, sarcoidosis, scleroderma Erythromycin can cause a prolonged QT interval
- Statins + erythromycin/clarithromycin - an important and common interaction
- Infective endocarditis causing congestive cardiac failure is an indication for emergency valve replacement surgery
- A beta-blocker or a calcium channel blocker is used first-line to prevent angina attacks
- Furosemide - inhibits the Na-K-Cl cotransporter in the thick ascending limb of the loop of Henle
- Poorly controlled hypertension, already taking an ACE inhibitor and a thiazide diuretic - add a calcium channel blocker
- For patients of Afro-Caribbean origin taking a calcium channel blocker for hypertension, if they require a second agent consider an angiotensin receptor blocker in preference to an ACE inhibitor
- Pulmonary embolism - CTPA is first-line investigation
- JVP: y descent = opening of tricuspid valve
- Eisenmenger's syndrome - the reversal of a left-to-right shunt
- People with cardiac syndrome X have normal coronary angiograms despite ECG changes on exercise stress testing
- Patients with recurrent venous thromboembolic disease may be considered for an inferior vena cava filter
- AV block can occur following an inferior MI
- Aortic stenosis - S4 is a marker of severity
- Labetalol is first-line for pregnancy-induced hypertension
- Paradoxical embolus - PFO most common cause
- Aortic stenosis - most common cause: younger patients < 65 years: bicuspid aortic valve, older patients > 65 years: calcification
- BNP - actions: → vasodilator, diuretic and natriuretic suppresses both sympathetic tone and the renin-angiotensin-aldosterone system
- Sudden death, unusual collapse in young person - ? HOCM
- Hydralazine - increases cGMP leading to smooth muscle relaxation
- Poorly controlled hypertension, already taking an ACE inhibitor, calcium channel blocker and a thiazide diuretic,  $K^+ < 4.5 \text{ mmol/l}$  - add spironolactone
- Risk of falls alone is not sufficient reasoning to withhold anticoagulation
- Aminophylline reduces the effect of adenosine
- Amiodarone - MOA: blocks potassium channels



- Nicorandil is a potassium channel activator
- Right axis deviation - left posterior hemiblock
- Complete heart block causes a variable intensity of S1
- Pulmonary arterial hypertension patients with negative response to vasodilator testing should be treated with prostacyclin analogues, endothelin receptor antagonists or phosphodiesterase inhibitors. Often combination therapy is required
- A potassium above 6mmol/L should prompt cessation of ACE inhibitors in a patient with CKD (once other agents that promote hyperkalemia have been stopped)
- Hypokalaemia - U waves on ECG
- QT interval: Time between the start of the Q wave and the end of the T wave
- Rate-limiting CCBs should be avoided in patients with AF with heart failure with reduced EF (HFrEF) due to their negative inotropic effects
- Dipyridamole is a non-specific phosphodiesterase inhibitor and decreases cellular uptake of adenosine
- The main ECG abnormality seen with hypercalcaemia is shortening of the QT interval
- Beta-blockers e.g. bisoprolol should not be used with verapamil due to the risk of bradycardia, heart block, congestive heart failure
- HOCM - poor prognostic factor on echo = septal wall thickness of > 3cm
- Second heart sound (S2) → Loud: hypertension ,soft: AS ,fixed split: ASD reversed split: LBBB
- Arrhythmogenic right ventricular cardiomyopathy is characterised by right ventricular myocardium replaced by fatty and fibrofatty tissue
- ALS - give adrenaline in non-shockable rhythm as soon as possible
- Nicotinic acid increases HDL levels
- In management of STEMI if primary PCI cannot be delivered within 120 minutes then thrombolysis should be given
- Pulmonary hypertension is a cause of a loud S2 (due to a loud P2)
- HOCM is usually due to a mutation in the gene encoding  $\beta$ -myosin heavy chain protein or myosin binding protein C
- Ticagrelor has a similar mechanism of action to clopidogrel - inhibits ADP binding to platelet receptors
- Atrial myxoma - commonest site = left atrium
- Patients with a suspected pulmonary embolism should be initially managed with low-molecular weight heparin
- Patients with VT should not be prescribed verapamil
- Offer a mineralocorticoid receptor antagonist, in addition to an ACE inhibitor (or ARB) and betablocker, to people who have heart failure with reduced ejection fraction if they continue to have symptoms of heart failure
- Contrast-enhanced CT coronary angiogram is the first line investigation for stable chest pain of suspected coronary artery disease aetiology
- ACE inhibitors can cause first dose hypotension
- Aortic regurgitation - early diastolic murmur, high-pitched and 'blowing' in character

- Patients with SVT who are haemodynamically stable and who do not respond to vagal manoeuvres, the next step is treating with adenosine
- Methadone is a common cause of QT prolongation
- Eclampsia - give magnesium sulphate first-line
- Patients on warfarin undergoing emergency surgery - give four-factor prothrombin complex concentrate
- Sotalol is known to cause long QT syndrome
- Aschoff bodies are granulomatous nodules found in rheumatic heart fever
- Streptococcus bovis endocarditis is associated with colorectal cancer
- Most common cause of endocarditis: Staphylococcus aureus
- Staphylococcus epidermidis if < 2 months post valve surgery
- Left parasternal heave is a feature of tricuspid regurgitation
- S4 coincides with the P wave on ECG
- Inherited long QT syndrome, sensorineural deafness - Jervell and Lange-Nielsen syndrome
- Left axis deviation - Wolff-Parkinson-White syndrome (right-sided accessory pathway)
- Hypertension in diabetics - ACE-inhibitors are first-line regardless of age
- Clopidogrel inhibits ADP binding to platelet receptors
- New onset AF is considered for electrical cardioversion if it presents within 48 hours of presentation
- JVP: C wave - closure of the tricuspid valve
- Takotsubo cardiomyopathy is a differential for ST-elevation in someone with no obstructive coronary artery disease
- Atrial fibrillation: rate control - beta blockers preferable to digoxin
- Massive PE + hypotension - thrombolyse
- Major bleeding - stop warfarin, give intravenous vitamin K 5mg, prothrombin complex concentrate
- Third heart sound - constrictive pericarditis Poorly controlled hypertension, already taking an ACE inhibitor - add a calcium channel blocker or a thiazide-like diuretic
- Aortic stenosis management: AVR if symptomatic, otherwise cut-off is gradient of 40 mmHg
- Prosthetic heart valves - mechanical valves last longer and tend to be given to younger patients
- Complete heart block following an inferior MI is NOT an indication for pacing, unlike with an anterior MI
- Pulmonary arterial hypertension patients with positive response to vasodilator testing should be treated with calcium channel blockers
- Inferior MI - right coronary artery lesion
- Pulmonary embolism and renal impairment → V/Q scan is the investigation of choice
- Aortic dissection type A - ascending aorta - control BP(IV labetalol) + surgery ,type B - descending aorta - control BP(IV labetalol)
- Atrial fibrillation - cardioversion: amiodarone + flecainide
- Takayasu's arteritis is an obliterative arteritis affecting the aorta
- Staphylococci is the leading organism contributing to mortality in infective endocarditis



- Dabigatran is a direct thrombin inhibitor
- Infective endocarditis - strongest risk factor is previous episode of infective endocarditis
- Palpitations should first be investigated with a Holter monitor after initial bloods/ECG
- Tricuspid valve endocarditis can cause tricuspid regurgitation, which may manifest with a new pan-systolic murmur, large V waves and features of pulmonary emboli
- Acute vasodilator testing should be used in patients with pulmonary artery hypertension to determine which patient show a significant fall in pulmonary arterial pressure following vasodilators and help guide treatment
- Asymmetric septal hypertrophy and systolic anterior movement (SAM) of the anterior leaflet of mitral valve on echocardiogram or cMR support HOCM
- The recommended dose of adrenaline to give during advanced ALS is 1mg
- Bendroflumethiazides can worsen glucose tolerance
- Long QT syndrome - usually due to loss-of-function/blockage of K<sup>+</sup> channels
- PCI: stent thrombosis - withdrawal of antiplatelets biggest risk factor
- Poorly controlled hypertension, already taking a calcium channel blocker - add an ACE inhibitor or an angiotensin receptor blocker
- Antibiotic prophylaxis to prevent infective endocarditis is not routinely recommended in the UK for dental and other procedures
- ACE-inhibitors should be avoided in patients with HOCM
- Renal dysfunction (eGFR <60) can cause a raised serum natriuretic peptides
- Blood pressure target (< 80 years, clinic reading) - 140/90 mmHg
- A stable patient presenting in AF with an obvious precipitating cause may revert to sinus rhythm without specific antiarrhythmic treatment
- Witnessed cardiac arrest while on a monitor - up to three successive shocks before CPR
- Ventricular tachycardia - verapamil is contraindicated
- Thiazide diuretics can cause hyponatraemia, metabolic alkalosis, hypokalaemia and hypocalcaemia
- Percutaneous mitral commissurotomy is the intervention of choice for severe mitral stenosis
- Ivabradine use may be associated with visual disturbances including phosphenes and green luminescence

### Multiple choice questions

± Patient having mitral stenosis most commonly presents with ?

- a. Palpitation
- b. Syncope
- c. Atrial fibrillation
- d. Dyspnea

ANS: D

± STEMI due to cocaine abuse which of the following should be avoided ?

- a. GTN

- b. Aspirin
- c. PCI
- d. Diltiazem
- e. Atenolol

ANS: E

➤ After MI there are runs of PVCs on ECG, what drug is to be given?

- a. Amiodarone
- b. Lidocaine
- c. Digoxin
- d. Betablockers

ANS: D If observe is in option then click observe, normally if there are pvc's post MI we check electrolytes and observe the patient as antiarrhythmic drugs at this stage can increase mortality.

➤ Patient developed murmur post MI what investigation will you perform?

- a. ECG
- b. ETT
- c. Holter monitoring
- d. Thallium scan
- e. ECHO cardiography

ANS: E

➤ Patient in surgical ward suddenly become SOB, after 10 days of laprotomy, his BP is 80/60, pulse is 120 with SOB, what is the treatment of choice?

- a. Thrombolysis
- b. Heparin
- c. Aspirin
- d. Caval filters

ANS: A Massive pulmonary embolism management is thrombolysis.



± Most relevant sign of mitral stenosis is ?

- a. Loud S1
- b. Presystolic accentuation
- c. Soft S2
- d. Tapping apex beat

ANS: B

± Most common antiarrhythmic drug used in CPR is ?

- a. Verapamil
- b. Amiodarone
- c. Lidocaine
- d. Aspirin

ANS: B If epinephrine is in option then click that

± Middle age man presented to emergency department with SOB and pink frothy sputum. On chest xray there is perihilar shadowing and upper lobe diversion . what is your diagnosis ?

- a. Acute severe asthma
- b. Mitral stenosis
- c. Acute pulmonary edema
- d. Massive pulmonary effusion
- e. COPD

ANS: C

± 30 year old patient presented with recurrent episodes of syncope on exertion . he has pansystolic murmur at left sterna edge and double apex beat . his father suddenly died at younger age . which drug should not be given in this patient ?

- a. CCBs
- b. BBs
- c. Digoxin
- d. Amiodarone

ANS: C

± Investigation of choice for HOCM is ?

- a. ECG
- b. Thallium scan
- c. Angiography
- d. ECHO
- e. Myocardial perfusion scan

ANS: D

± Which of the following is most characteristic coarse of MVP?

- a. Benign coarse
- b. Pansystolic murmur
- c. No midsystolic click
- d. All of them

ANS: A

⌘ Patient returned from USA, he developed shortness of breath, xrat shows pericardial calcification. what is your diagnosis?

- a. Metastatic disease
- b. TB
- c. Cocksackie virus infection
- d. Trauma

ANS: C

⌘ Patient presented with early pattern murmur then midsystolic murmur ECHO proves aortic regurgitation, the characteristic middiastolic murmur in this situation is called?

- a. Austin flint murmur
- b. Grahams steel murmur
- c. Cary coombs murmur
- d. Carvello sign

ANS: A

⌘ Patient presented with SOB and ejection systolic murmur and CXR shows olegemic lung fields, ECG shows rSR pattern, what is your diagnosis?

- a. Pulmonic stenosis
- b. Aortic stenosis
- c. Mitral regurgitation
- d. Tricuspid regurgitation
- e. MVP

ANS: A

⌘ A young patient took some antibiotic for sore throat now developed abnormal hand movements and joint pain what is your diagnosis?

- a. Rheumatic fever
- b. Rheumatoid arthritis
- c. Adult onset stills disease
- d. Juvenile rheumatoid arthritis

ANS: A

⌘ Ecg is pericarditis shows?

- a. ST elevation with upward concavity
- b. St elevation with downward concavity
- c. No St changes
- d. PR elevation

ANS: A

⌘ Thrombolysis is more beneficial in?

- a. Inferior wall MI
- b. Anterior wall MI
- c. Pericarditis
- d. NSTEMI

ANS: B



4. A patient presented with chest pain and ST elevation in all leads, what is your diagnosis?

- a. MI
- b. Pericarditis
- c. Aortic dissection
- d. LV aneurysm

ANS: B

4. Dressler syndrome is?

- a. Autoimmune phenomenon
- b. Infective
- c. Infiltrative
- d. Storage disease

ANS: A

4. Diabetic patient taking metformin now presented with hypertension, which antihypertensive drug will you advise?

- a. Lisinopril
- b. Amlodipine
- c. Verapamil
- d. Nifedipine
- e. Thiazide diuretics

ANS: A

4. Middle age lady having several episodes of light headedness presented to OPD. ECG shows heart rate of 49 and sinus pause of 2.5 sec. What will you do next?

- a. Permanent pace maker
- b. Trial of temporary pace maker
- c. Atropine
- d. Holter monitoring

ANS: D

4. Patient of angina pectoris, best way to diagnose her is?

- a. Clinical history
- b. Clinical examination
- c. ECG
- d. ECHO

ANS: A

4. Patient presented with pulseless VT what to do next?

- a. DC Cardioversion
- b. Epinephrine
- c. Amiodarone
- d. Flecainide
- e. Betablockers

ANS: A

- ✦ Patient with atrial fibrillation developed pain and pallor of right leg suddenly pulses are absent, what is the investigation of choice?
- Angiography
  - Duplex scan
  - Phlebography
  - U/S
- ANS: A
- ✦ Which of the following is characteristic feature of familial hypercholesterolemia?
- Tendon xanthomas
  - Eruptive xanthomas
  - Corneal arcus
  - Arcus senilis
- ANS: A
- ✦ For diagnosing and monitoring of cardiomyopathy which of the following is done?
- Ecg
  - Echo
  - Angiography
  - ETT
- ANS: B
- ✦ A patient present with SOB, he is having history of MI and pulse is fast and irregularly irregular, chest examination shows bibasal crepts, which of the following drug will you give to control heart rate?
- Digoxin and diuretics
  - CCBs
  - Beta blockers
  - Adenosine
- ANS: A
- ✦ 60 year old man having history of chronic atrial fibrillation now presented with TIA, which of the following drug you will advice?
- Aspirin
  - Warfarin
  - Digoxin
  - Betablockers
- ANS: B
- ✦ A patient with new onset Afib presented with SOB and BP of 70/40 mm hg he has no structural heart disease. What will you do?
- Digoxin
  - Amiodarone
  - Flecainide
  - DC cardioversion
- ANS: D



✚ Patient is known case of angina presented to you with pain at rest . what is the most appropriate initial management ?

- a. Aspirin
- b. Heparin
- c. Nitrates
- d. Thrombolysis

ANS: A

✚ Which of the following is most important prognostic factor in CCF ?

- a. BNP
- b. Ejection fraction
- c. Jvp
- d. Peripheral pulses

ANS: A

✚ MI patient underwent angiography , 3 days later he presented with oliguria and deranged RFTs, what is the most likely cause ?

- a. Prerenal azotemia
- b. Contrast induced nephropathy

ANS: B

✚ An old man having BP of 180 / 100 mmhg presented with headache and confusion , his wife told you that he was stumbling in to furniture . what is the important bedside test to reach your diagnosis?

- a. Fundoscopy
- b. Minimental score
- c. Romberg sign
- d. Hoffman sign

ANS: A

✚ Patient is having dilated left ventricle , EF is 20 and coronary angiography is normal what is your diagnosis ?

- a. Cardiomyopathy
- b. MI
- c. COPD
- d. TB

ANS: A

✚ ECG findings in hypercalcemia is ?

- a. Short QT interval
- b. Prolong QT interval

ANS: A

✚ Young boy presented to you with SOB and cyanosis , CXR shows oligemic lung fields , there is murmur on precardium examination . what is your diagnosis ?

- a. TOF
- b. AS
- c. PS

d. AS

**ANS: A**

✚ Patient with PDA now presented with reversal of shunt , which of the following features are characteristic features of reversal of shunt ?

- a. Absent femoral pulse
- b. Cyanosis of lower limbs
- c. Murmur become more prominent
- d. Thrill

**ANS: B**

✚ IV KCL leads to?

- a. Systolic cardiac arrest
- b. Diastolic cardiac arrest

**ANS: B**

✚ Wich of the following is most important test to confirm the diagnosis of pulmonary hypertention ?

- a. ECHO
- b. HRCT
- c. Cardiac catheterization
- d. Pulmonary angiography
- e. V/Q scan

**ANS: C**

✚ A patient presented with chest pain and was diagnosed as having inferior wall MI , his heart rate is 40 what is the next management step in this patient ?

- a. Inj atropine
- b. Inj adrenaline
- c. Pacemaker
- d. Amiodarone

**ANS: A**

✚ An alcoholic patient presented to you with SOB , chest Xray shows enlarge cardiac shadow and pulmonary edema what is the most likely cause ?

- a. Vitamin B1 deficiency
- b. COPD
- c. HOCM
- d. Selenium deficiency

**ANS: A**

✚ A young child has preogressive dyspnea while standing in assembly, his chest examination shows bilateral crepts ,what investigation will you do ?

- a. CXR
- b. ECHO
- c. ECG
- d. Thallium scan

**ANS: B**



‡ Diabetic patient is having angioedema now developed hypertention , what drug will you advice to treat hypertention ?

- a. Betablockers
- b. Losartan
- c. Captopril
- d. Terazosin

ANS: B

‡ How will you manage dressler syndrome?

- a. Steroids
- b. NSAIDS
- c. Antibiotics
- d. Observe

ANS: B

‡ Major criteria for rheumatic fever is ?

- a. Erythema nodosum
- b. Erythema marginatum
- c. Fever
- d. Prolong PR interval

ANS: B

‡ A female patient presented to emergency department with lateral wall MI , which of the following artery is involved ?

- a. LAD
- b. RCA
- c. LCX
- d. Right marginal artery

ANS: C

‡ 1<sup>st</sup> agent to be given in patient with MI is ?

- a. Aspirin
- b. Oxygen
- c. Streptokinase
- d. Nitrates

ANS: A

‡ Patient with HOCM was collapsed and then successfully resuscitated in the ER . what is the next step in management ?

- a. Surgical ablation
- b. Beta blockers
- c. ICD
- d. Myomectomy

ANS: C

‡ Most common cause of stoke adams attack is ?

- a. Complete heart block
- b. Prolong QT

- c. ST segment elevation
- d. Bifid P wave

ANS: A

+ Which of the following is most common change in retina secondary to uncontrolled hypertension?

- a. Retinitis obliterans
- b. Cotton wool spots
- c. Optic atrophy
- d. Flame shaped hemorrhages

ANS: B

+ Most common cause of death in infective endocarditis is?

- a. LVF
- b. Shock
- c. Mitral stenosis
- d. Abscess

ANS: A

+ DC shock is contra indicated in fibrillation, if it is associated with?

- a. Pericarditis
- b. Digoxin toxicity
- c. Electrolyte imbalance
- d. Hypocalcemia
- e. Mitral valve disease

ANS: B

+ According to AHA guidelines, the latest method of CPR?

- a. 30:2
- b. 15:2
- c. 30:1
- d. 10:1

ANS: A

+ Which of the following is not the characteristic feature of viral pericarditis?

- a. Improves by leaning forward
- b. ST depression
- c. PR depression
- d. ST elevation in all leads
- e. Raised ESR

ANS: B

+ 65 year old male patient presented with chest pain on exertion and lightheadedness. O/E he is having systolic murmur that is best heard in right 2<sup>nd</sup> intercostal space that is radiating to the neck. What is the most likely diagnosis?

- a. AS
- b. AR
- c. MS



d. MR

**ANS: A**

✚ Which of the following is true regarding reversal of shunt in PDA?

- a. Cyanosis in the lower extremities
- b. Cyanosis in the upper extremities
- c. S1 split
- d. None of them

**ANS: A** differential cyanosis and differential clubbing is an important feature of PDA shunt reversal.

✚ Patient presented with palpitation and dizziness 3 months after MI. what will be your investigation of choice?

- a. ECG
- b. ECHO
- c. Holter monitoring
- d. Angiography

**ANS: C**

✚ Patient is on antihypertensive treatment and statin therapy, developed pedal edema, His ECG, ECHO and CXR, is normal. What could be the cause of his bilateral pedal edema?

- a. Beta blockers
- b. Atorvastatin
- c. Valartan
- d. Amlodipine

**ANS: D**

✚ Aortic stenosis is associated with?

- a. Heyde syndrome
- b. Marfan syndrome
- c. Turner syndrome
- d. SLE

**ANS: A** Heyde syndrome is a multisystem disorder characterized by triad of the triad of aortic stenosis, gastrointestinal disorder (angiodysplasia) and acquired von willibrand syndrome.

✚ Patient presented with CCF. BAL was performed for this patient. What it will show?

- a. Goblet cells
- b. Lipid laden macrophages
- c. Hemosiderin laden macrophages

**ANS: C** Heart failure cells are siderophages generated in the alveoli of the patients with the left sided heart failure.

✚ Patient presented with radioradial and radiofemoral delay. what is the most likely cause?

- a. Coarctation of aorta before the origin of left subclavian artery
- b. Coarctation of aorta after origin of left subclavian artery

ANS: A

✚ Giant V wave on JVP is seen in?

- a. MR
- b. TR
- c. MS
- d. PS

ANS: B

✚ Cardiac abnormality associated with rheumatoid arthritis is?

- a. Aortic stenosis
- b. Aortic regurgitation
- c. Pulmonic stenosis
- d. Tricuspid regurgitation

ANS: B

✚ Drug causing hyperurecemia is?

- a. High dose aspirin
- b. Low dose aspirin

ANS: B

=====



# RENAL SYSTEM

- Good pasture syndrome → linear IgG deposits anti-GBM antibodies
- **igA nephropathy** is also called **mesangioproliferative glomerulonephritis** characterized by mesangial deposition of IgA immune complexes. Episodic gross hematuria occurring within **day or two** of viral infection. There is considerable overlap with HSP. **Histology-shows:** mesangial hypercellularity and **igA and C3 deposition**. It is differentiated from post streptococcal glomerulonephritis as → PSGN characteristically occurs 7 to 10 days after bacterial infection in which main feature is hematuria and low complement level. Associations of IgA nephropathy is : Alcoholic cirrhosis, celiac disease, HSP. **Poor prognostic factors are:** Male, proteinuria > 2g/day, hypertension, hyperlipidemia, smoker. **REMEMBER** → gross hematuria is sign of good prognosis. And 25 percent develop ESRD. STEROIDS and immunosuppressants are not useful in treatment.
- Most diagnostic investigation for ureter stone is non contrast helical CT.
- **Oxalate stones prevention:** Cholestyramine and pyridoxine decreases urinary oxalate secretion.
- **Calcium stone prevention:** Increase water intake and thiazide diuretics
- **Uric acid stones prevention:** Allopurinol and urinary alkalinization, note uric acid stone are radiolucent and not detectable on xray and can be detected on ultrasound.
- ANCA related vasculitides presents as rapidly progressive or Crescentic Glomerulonephritis.
- Diabetic nephropathy may present as nephritic syndrome but it typically takes 15 years to develop.
- **igA nephropathy ( mesangioproliferative GN ) → IgA and C3 deposition**
- **Membranous glomerulonephritis → IgG and C3 subepithelial deposition.**
- **FSGN there are → IgM and C3 deposits**
- Good pasture syndrome → linear IgG deposits.
- Post streptococcal GN → lumpy bumpy appearance
- Membranous GN → spike and Dome pattern.
- CMV is most common and important viral infection in solid organ Transplant recipients. Ganciclovir is the treatment of choice in such patients.
- Important HLA typing for renal transplant is → DR > B > A.
- Hodgkin lymphoma → minimal change disease
- Recurrence of Renal disease post transplant is → MCGN > IgA > FSGS.
- Proteus infection can predispose to ammonium, magnesium phosphate stone (triple phosphate stone also called → Struvite stone (stag horn calculi) that is formed in alkaline urine. Stag horn calculi involve renal pelvis and extend into at least 2 calyces.
- MR angiography is now investigation of choice to detect renal vascular disease.



- Palpable purpura on limbs buttocks ,abdominal pain , arthritis , and igA deposition → Henoch schonlein purpura.
- B2 microglglobulin amyloidosis is associated with renal dialysis .
- AL-amyloidosis associated with → Multiple myeloma , MGUS,Waldenstrom macroglobulinemia . There is cardiac involvement , CNS involvement , renal involvement , macroglossia , periorbital ecchymosis .
- Loop diuretics and steroids are culprit for calcium stones and thiazide diuretics prevent stone formation.
- Hematuria with loin pain , abdominal mass hypertention , secondary polycythemia , left sided varicocele → Renal cell cancer , **Rx** is total or partial nephrectomy and for advanced cases is tyrosine receptor inhibitor (sunitinib > sorafenib).
- Non -Hodgkin lymphoma → Membranous GN.
- Malignancy , associated with nephrotic range proteinuria , igG and C3 deposition , and spike and dome appearance →**Membranous GN.Rx.** Steroids and cyclophosphamide .
- **Good pasture syndrome:** Pulmonary hemorrhage , hemoptysis , fever , hematuria , proteinuria , linear igG deposition in GBM . **Rx**ismethylprednisolone and cyclophosphamide .In severe cases consider plasmaphoresis .
- Nephritic range proteinurea , raised creatinine , **normal** sized kidneys on Ultrasound , **focal segmental glomerulosclerosis** , normal BP , raises immunoglobulins and raised cholesterol →**HIV nephropathy.**
- Treatment of high poshphate in End stage renal disease is → Sevelamer.
- Acute onset loin pain , with acutely deranged RFTS in patient with nephrotic syndrome may raise the probability of Renal vein thrombosis .( In nephrotic syndrome there is loss of Antithrombin III in urine leading to hypercoagulable state ) .
- Treatment of rhabdomyolysis is → Adequate hydration.
- Bilateral sensorineural deafness ,corneal dystrophy , lenticonus (protrusion of lens into anterior chamber ) , microscopic hematuria and progressive renal failure , retinitis pigmentosa → Alport syndrome ( X-linked dominant with defect in gene with encodes foe type IV collagen , Renal biopsy shows splitting of lina densa and basket wave pattern.
- Child (75 % ) , young adult (25%) nephrotic range proteinurea , normal blood pressure , normal looking glomeruli on light microscope and fusion iof podocytes on electron microscope → Minimal change disease . ( idiopathic , may be associated with NSAIDS, rifampicin , Hodgkin s lymphoma and infectious mononucleosis , gives best response to steroids ).
- Astma , eosinophillia , renal failure , renal failure , mononeuritis multiplex positive P-ANCA is → churgg struass syndrome.
- Flash pulmonary edema ( Evident by perihilar infiltrates and upper lobe diversion of lungs on CXR ) and acutely derranged RFTs once ACEis started → Renal artery stenosis .
- Investigation of choice for renal artery stenosis is → MR Angiography.
- In renal artery stenosis 1<sup>st</sup> line is medical therapy and in fibromuscular dysplasia first line is → Balloon angiopalsy ( FMD typically presents in young female with uncontrolled



hypertension with small kidneys on Ultrasound and MR angiography shows string of bead appearance.

- Normal or low blood pressure, high bicarbonate in the blood (alkalosis), hypokalemia, hyponatremia with high sodium in urine and hypercalciuria → Barter syndrome or use of loop diuretics.
  - Gitelman syndrome typically presents with low urinary calcium and high urinary magnesium, with hypercalcemia and hypomagnesemia (thiazide diuretics like action).
  - Hypokalemia with hypertension with low renin and aldosterone → Liddle syndrome. Rx is Amiloride.
  - Renal transplant patient presented after 4 weeks with gradual rise in creatinine, there is also evidence of colitis, esophagitis, and neutropenia → CMV infection. Rx is ganciclovir.
  - Angioplasty done for the indication of unstable angina now patient presents with deranged renal functions, proteinuria, purpura and leiodereticularis → Cholesterol embolization.
  - Investigation of choice for bladder cancer is → cystoscopy.
  - Smoking, rubber, printing factory workers are at risk of transitional cell carcinoma of bladder and schistosomiasis leads to squamous cell carcinoma of bladder.
  - In renal papillary necrosis IVU shows renal scarring and Cup and spill appearance. Causes of renal papillary necrosis are analgesia use, Sickle cell disease, TB, acute pyelonephritis.
- NOTE:** In mcqs some time its get very difficult to differentiate between pyelonephritis and acute papillary necrosis. **HINT:** Look for sudden onset of Flank pain, fever, and hematuria in patient having history of diabetes, sickle cell disease or chronic analgesia use. Remember papillary necrosis is sudden.
- **Diffuse proliferative glomerulonephritis:** In children poststreptococcal glomerulonephritis and in adults it is most common form of SLE nephropathy.
  - **Mesangiocapillary glomerulonephritis:** Also called as membranoproliferative glomerulonephritis. **Type 1** (Most common, seen in 90 percent of cases of MCGN) is seen in HCV and cryoglobulinemia, Tram track appearance and **Type 2** is seen in Partial lipodystrophy.
  - **Type 2 MCGN** is also called dense deposit disease, factor H deficiency. It is associated with C3b nephritic factor and there is typically low levels of complement proteins.
  - **Contrast induced nephropathy:** 25 % increase in creatinine occurring within 3 days of IV administration of contrast media. **Mx** IV normal saline pre and post procedure. It may occur post angiography as well since contrast media is used. **D/Dis** Cholesterol emboli but in cholesterol emboli besides ARF other features are present like Eosinophilia, eosinophiluria (pathognomonic) Purpura and Leiodereticularis.
  - Thrombocytopenia is least likely to occur in → HSP.
  - **Common causes of retroperitoneal fibrosis:** Riedel thyroiditis, Previous radiotherapy, sarcoidosis, inflammatory abdominal aortic aneurysm, drugs like methysurgide.
  - Osteomalacia is most commonly seen in Type 2 RTA.
  - Nephrocalcinosis is most likely seen in type 1 RTA.
  - All three types of RTAs are associated with hyperchloremia.
  - In tubular interstitial disease the characteristic finding is Hyperchloremic metabolic acidosis.
  - RTAs are associated with normal anion gap metabolic acidosis.



- Type 1 RTA has very severe acidosis as compared to Type 2.
- Type 1 has very low bicarbonate (less than 12) as compared to type 2 (14 to 18).
- **Type 1 RTA:** urine pH > 5.5, causes include idiopathic, Amphotericin B toxicity, Analgesic nephropathy, Autoimmune disorders like RA, SLE, Sjogren syndrome and sickle cell disease, congenital anomalies like obstruction of urinary tract.
- **Type 2 RTA:** urine pH < 5.5, causes include as a part of Fanconi syndrome, Wilson disease, cystinosis, heavy metal poisoning, outdated tetracyclines. There is increased risk of Hypophosphatemic Rickets (Fanconi syndrome).
- **RTA type 3:** It is differentiated from other types by increase in serum potassium. It is associated with hypoaldosteronism and diabetes.
- **Post transplant:** CMV infection is more common from 4 weeks to 12 months and the CMV infected cells appear as OWL EYE due to intranuclear inclusions.
- **CMV Retinitis** is common in HIV when cell count is less than 50.
- There is no role of antibiotics, steroids and immunosuppressants in HUS, treatment is supportive including IV fluids and blood transfusion. Plasma exchange therapy can be done in severe cases.
- Commonest cause of GN world wide is **IgA nephropathy**.
- 80 percent of patients in minimal change disease are steroid responsive and **cyclophosphamide** is next step used in steroid resistant cases.
- **Alfentanil, buprenorphine, and fentanyl** are the preferred opioids that can be given in patients with CKD.
- **Autosomal recessive polycystic kidney disease:** chromosome 6 / fibrocystin → newborns present with typical features of Potter's sequence due to oligohydramnios and it leads to ESRD in childhood. It can be diagnosed on **Prenatal ultrasound**.
- **Cystine stones** are semiopaque and urate and xanthine stones are radiolucent.
- Subepithelial deposits (spike and dome) with thick basement membrane is seen in → Membranous GN. It is commonest cause of nephrotic syndrome in adults.
- 1<sup>st</sup> line treatment for Raynaud's phenomenon is → CCBs and if there is severe ulceration then give prostacyclin infusion. Steroid use is known to precipitate scleroderma renal crisis.
- Alcoholic cirrhosis and hematuria → IgA nephropathy.
- 1<sup>st</sup> line treatment in 2<sup>o</sup> hyperparathyroidism is → calcium acetate.
- All patients with diabetes with diabetes and microalbuminuria should be offered ACEIs irrespective of whether they are hypertensive or not.
- Most common cause of renal papillary necrosis in children is → Sickle cell anemia and in adults it is → DM.
- To differentiate between proximal and distal RTA → Do serum Bicarbonate.
- **Causes of CKD with normal size kidneys**
  - Multiple Myeloma
  - Amyloidosis
  - PCKD
  - HIV
  - Malignancy.
- **Indications of dialysis**
  - Uremic pericarditis / uremic encephalopathy
  - Severe acidosis
  - Persistent hyperkalemia > 7 mmol/L
  - Severe acidosis pH < 7.2
  - Drug Toxicity (BLAST; barbiturates, lithium, aspirin, and theophylline).
- Most common pathogen involved in UTI is → E. coli.



- DVT in nephrotic syndrome is due to → Loss of antithrombin III in urine.
- Patient took some drugs for FLU now he is having fever rash arthralgia, eosinophilia and eosinophiluria (pathognomonic) and non oliguric renal failure → acute interstitial nephritis. Rx drug withdrawal and steroids.
- When prescribing fluids, the potassium requirement per day is 1 mmol/kg/day. Renal stones on x-ray
- Cystine stones: semi-opaque
- Urate + xanthine stones: radio-lucent
- Membranoproliferative glomerulonephritis (mesangiocapillary) Type 1: cryoglobulinaemia, hepatitis C and Type 2: partial lipodystrophy
- Alfacalcidol is used as a vitamin D supplement in end-stage renal disease because it does not require activation in the kidneys
- The time taken for an arteriovenous fistula to develop is 6 to 8 weeks
- Minimal change disease is the most common cause of nephrotic syndrome in a child
- Tolvaptan is a vasopressin receptor 2 antagonist
- Proteus mirabilis infection predisposes to struvite kidney stones
- Stag-horn calculi are composed of struvite and form in alkaline urine (ammonia producing bacteria therefore predispose)
- Young female, hypertension and asymmetric kidneys → fibromuscular dysplasia
- CKD on haemodialysis - most likely cause of death is IHD
- Calciphylaxis lesions are intensely painful, purpuric patches with an area of black necrotic tissue that may form bullae, ulcerate, and leave a hard, firm eschar
- Prevention of contrast-induced nephropathy: volume expansion with 0.9% saline
- Nephrotic syndrome is associated with a hypercoagulable state due to loss of antithrombin III via the kidneys
- ADPKD type 1 = chromosome 16 = 85% of cases
- Cytomegalovirus is the most common and important viral infection in solid organ transplant recipients
- Coagulase-negative Staphylococcus is the most common cause of peritonitis secondary to peritoneal dialysis
- Goodpasture's syndrome → IgG deposits on renal biopsy and anti-GBM antibodies
- Nephrotic syndrome - malignancies cause membranous glomerulonephritis
- Micturating cystography is the investigation of choice for reflux nephropathy
- hCG is associated with testicular seminomas
- Ultrasound is the screening test for adult polycystic kidney disease
- Antimuscarinic drugs are useful in patients with an overactive bladder
- ADPKD type 2 = chromosome 4 = 15% of cases
- Arteriovenous fistulas are the preferred method of access for haemodialysis
- Renal transplant HLA matching - DR is the most important
- Alport's syndrome - type IV collagen defect
- Nephrogenic diabetes insipidus may be caused genetic mutations: the more common form affects the vasopressin (ADH) receptor and the less common form results from a mutation in the gene that encodes the aquaporin 2 channel
- Contrast-induced nephropathy occurs 2 -5 days after administration
- Ascites - use spironolactone
- Guidelines continue to recommend the use of IM diclofenac in the acute management of renal colic
- Urine output of < 0.5 ml/kg/hr over 6 consecutive hours constitutes an acute kidney injury
- Uric acid nephrolithiasis are radiolucent, requiring ultrasonography or CT KUB (without contrast)



- Urine dip can be used to differentiate acute tubular necrosis from acute interstitial nephritis in AKI
- The mainstay of rhabdomyolysis treatment is rapid IV fluid rehydration
- Flash pulmonary oedema, U&Es worse on ACE inhibitor, asymmetrical kidneys → renal artery stenosis - do MR angiography (renal artery stenosis)
- Rapidly progressive glomerulonephritis, causes:
- Chronic Kidney Disease often leads to anaemia due to reduced levels of erythropoietin
- Eplerenone can be used in patients with troublesome gynaecomastia on spironolactone
- PSGN develops 1-2 weeks after URTI
- IgA nephropathy develops 1-2 days after URTI
- Sterile pyuria and white cell casts in the setting of rash and fever should raise the suspicion of acute interstitial nephritis, which is commonly due to antibiotic therapy
- ADPKD is associated with hepatomegaly (due to hepatic cysts)
- **ATN or prerenal uraemia?** → In prerenal uraemia think of the kidneys holding on to sodium to preserve volume
- Diffuse proliferative glomerulonephritis is the most common and severe form of renal disease in SLE patients
- Diffuse proliferative glomerulonephritis, causes: post-streptococcal and SLE
- Fanconi syndrome is a reabsorptive defect in PCT where there is increased excretion of nearly all amino acids, glucose, bicarbonate and phosphate
- In AKI, hyperkalaemia which is refractory to medical management is an indicator for renal replacement therapy
- ADPKD is associated with mitral valve prolapse
- Rhabdomyolysis should always be considered in the setting of lactic acidosis, hyperkalaemia and features of acute tubular necrosis
- Amyloidosis biopsy findings - Congo red stain shows apple-green birefringence under polarised light
- Spironolactone acts on the cortical collecting ducts as a diuretic
- eGFR variables - CAGE - Creatinine, Age, Gender, Ethnicity
- Idiopathic membranous glomerulonephritis is related to anti-phospholipase A2 antibodies
- Alport's syndrome - X-linked dominant (in the majority)
- Finasteride treatment of BPH may take 6 months before results are seen
- Stag-horn calculi composed of Struvite (ammonium magnesium phosphate, triple phosphate) form in alkaline urine (ammonia producing bacteria such as *Ureaplasma urealyticum* and *Proteus* therefore predispose)
- Ureterosigmoidostomy - normal anion gap metabolic acidosis
- A common complication of plasma exchange is hypocalcaemia
- The presence of upper respiratory tract signs points towards granulomatosis with polyangiitis in a patient with rapidly progressive glomerulonephritis
- Minimal change glomerulonephritis - prednisolone
- NSAIDs and ACE-inhibitors/ARB cause prerenal acute kidney injury by decreasing the glomerular filtration
- Nephrotic syndrome in children / young adults - minimal change glomerulonephritis
- Rhabdomyolysis can cause parenchymal acute kidney injury and is characterised by elevated plasma creatine kinase (CK)
- Consider fibromuscular dysplasia in young female patients who develop AKI after the initiation of an ACE inhibitor
- NSAIDs should be stopped in AKI except aspirin at cardio-protective dose
- Renal tubular acidosis causes a normal anion gap



- Use of 0.9% Sodium Chloride for fluid therapy in patients requiring large volumes = risk of hyperchloraemic metabolic acidosis
- Patients who have received an organ transplant are at risk of skin cancer (particularly squamous cell carcinoma) due to long-term use of immunosuppressants
- Renal cell carcinoma can metastasise to the lungs, and remains an important differential in the setting of hypertension, hypercalcaemia and haematuria.
- **Side effects of erythropoietin:**
  - ⬇ Accelerated hypertension
  - ⬇ Bone aches
  - ⬇ Flu like symptoms
  - ⬇ Skin rashes, urticaria
  - ⬇ Pure red cell aplasia.
- Long term hemodialysis is most commonly associated with carpal tunnel syndrome secondary to the deposition of **B2-microglobulin**.
- Peritonitis secondary to peritoneal dialysis is most commonly associated with → staph epidermidis.

### Multiple choice questions

- **Most common reason for develop DVT in patient with nephrotic syndrome is?**
  - a. Hemoconcentration
  - b. Pedal edema leading to Compressed leg veins
  - c. Dyslipidemia
  - d. Loss of antithrombin 3

**ANS: D**
- **Metabolic alkalosis leads to ?**
  - a. Hypernatremia
  - b. Hyperkalemia
  - c. Hypomagnesemia
  - d. Hypocalcemia

**ANS: D**
- **Sodium concentration in normal saline is ?**
  - a. 135 meq/l
  - b. 77 meq/l
  - c. 154/meq/l
  - d. 320 meq/l

**ANS: C**
- **Female is complaining of frequency of micturition . she is complaining that she gets wet before reaching washroom , what is the most likely cause ?**
  - a. Stress incontinence
  - b. Urge incontinence
  - c. PID
  - d. UTI

**ANS: B**
- **A patient on dialysis on CKD needs dental extraction . under cover of what treatment his teeth should be extracted ?**
  - a. FFPS
  - b. Desmopressin
  - c. Platelets
  - d. Vitamin K
  - e. whole blood

**ANS: B**

- which of the following is the cut off limit for microalbuminuria ?

- a. 50 mg
- b. 500 mg

**ANS: A**

- 30 year old patient is having sensorineural deafness and microscopic hematuria .family history is also positive for same complaint .which of the following is most appropriate investigation ?

- a. Urine R/E
- b. U/S kidney
- c. CT
- d. MR
- e. Renal biopsy

**ANS: E**

- 20 year old patient having GN responded to steroids ,on histology no much changes are observed .what is the most likely diagnosis ?

- a. MPGN
- b. RPGN
- c. FSGN
- d. Minimal change disease

**ANS: D**

- Patient whas having road traffic accident . he had severe injury to lower limbs ,now he developed ARF . what is the most likely cause ?

- a. Aggressive resuscitation
- b. Rhabdomyolysis
- c. Hypotention
- d. Hypertetion

**ANS: B**

- Patient presented with renal failure , when to perform dialysis ?

- a. Pericardial rub
- b. Urea 300 mg /dl
- c. Urine out put 1 ml/ kg
- d. Cretinine of 6 mg/dl

**ANS: A**

- Patient presente DM , his HBA1C is 8 and blood sugar of 220 . cretinine of 9. What to do next ?

- a. Dialysis
- b. ACE inhibitors
- c. Achieve glycemic control
- d. Diuretics

**ANS: A**

- A young boy is having abdominal pain hypertention and deranged RFTs . Father and brother had same problem .How will you diagnose ?

- a. U/S abdomen
- b. Renal angiography
- c. Doppler study
- d. Biopsy

**ANS: A**

- Patient is on dialysis now developed carpal tunnel syndrome .what could be the cause?



- a. Damage to ulnar nerve
- b. Amyloidosis
- c. Hyper uremia
- d. Acidosis

ANS: B

- 65 year old female patient with the history of RA is noted to have proteinuria on annual review which of the following drug is more likely associated with development of proteinuria ?

- a. Cyclosporine
- b. Sodium aurothiomalate
- c. Methotrexate
- d. Infliximab
- e. Azathioprine

ANS: B

- Patient of CKD is now on erythropoietin treatment, is having hypertension. which of the following drug is responsible ?

- a. ACE inhibitors
- b. Erythropoietin
- c. Thyroxine
- d. Methyldopa

ANS: B

- Middle Age man presented for the work up of HTN, Urine dipstick was positive for blood. which one of the following is the reason for this finding?

- a. Smoking
- b. Strenuous Exercise
- c. Verapamil
- d. Eating red meat

ANS: B

- Which of the following is the reason of decreased plasma creatinine in pregnancy.

- a. Increase filtration
- b. Volume overload

ANS: A.

- Which type of casts are seen in glomerulonephritis?

- a. RBC cast
- b. Granular casts
- c. Muddy casts
- d. Hyaline casts

ANS: A

- To differentiate between proximal and distal RTA, following labs should be done?

- a. Serum  $\text{HCO}_3^-$
- b. Serum lactate
- c. Serum potassium
- d. None of them

ANS: A

- Most common pathogen involved in UTI is?

- a. E. coli
- b. Proteus
- c. Klebsiella
- d. Pseudomonas

ANS: A

- Patient with nephritic syndrome is having normal microscopic findings .what is the most likely diagnosis?
- FSGN
  - MCD
  - Membranous GN
  - Diffuse GN
- ANS: B**
- RTA 1 and RTA 4 is differentiated on the basis of ?
- Serm Sodium level
  - Serum bicarbonate level
  - Serum potassium level
  - Blood pressure
- ANS: C**
- Most common organ involved in amyloidosis is ?
- Kidney
  - Heart
  - Rectum
  - Lungs
- ANS: A**
- Metabolic acidosis is associated with ?
- Hyperkalemia
  - Hypokalemia
  - Hypercalcemia
  - Hyperchloremia
- ANS: A**
- 20 year old male patient is having exam after 3 days presented with generalized weakness and abdominal pain nausea and vomiting , his PH is 7.32 , bicarbonate level of 16 , serum blood sugar of 7.2 mmol perliter and serum potassium of 3 . what is the most likely diagnosis ?
- HONK
  - DKA
  - RTA type 1
  - Alcoholism
- ANS: C**
- In which of the following condition there is hypokalemia with hypertention ?
- Liddle syndrome
  - Gitelman syndrome
  - Barter syndrome
  - Fanconi syndrome
- ANS: A**
- Which of the following is most common cause of renal papillary necrosis ?
- DM
  - Hypertention
  - Nephrolitiasis
  - Acute pyelonephritis
  - Obstructive nephropathy
- ANS: A**
- To differentiate between proximal and distal RTA which of the following lab finding will help ?
- Serum bicarbonate level



- b. Serum lactate
- c. Serum potassium
- d. Serum H

ANS: A

➤ **Thickening of glomerular basement membrane is characteristic feature of ?**

- a. Minimal change disease
- b. Focal segmental GN
- c. Membranous GN
- d. RPGN
- e. Membranoproliferative GN

ANS: C

➤ **Peritoneal dialysis is contraindicated in?**

- a. LVF
- b. Ascites
- c. Pneumonia
- d. Old age

ANS: B

➤ **Which of the following type of glomerulonephritis is associated with streptococcal sore throat in children?**

- a. Focal segmental glomerulosclerosis
- b. Diffuse proliferative Glomerulonephritis
- c. Membranous glomerulonephritis
- d. Mesangiocapillary glomerulonephritis

ANS: B

➤ **An old diabetic hypertensive CKD patient presented to ER department with, tall tented T waves and ST depression. what is the most likely abnormality?**

- a. Uremic pericarditis
- b. Inferior wall MI
- c. Hypokalemia
- d. Hyperkalemia

ANS: D

➤ **Decrease urinary chloride is seen in?**

- a. Vomiting
- b. Diarrhea
- c. Dehydration
- d. None of the above

ANS: A

➤ **Peritoneal dialysis is best in?**

- a. Massive ascites
- b. Post MI LVF

ANS: B

➤ **Which of the following type of glomerulonephritis is associated with partial lipodystrophy?**

- a. MCD
- b. Membranous GN
- c. Mesangiocapillary GN

ANS: C

➤ **Henoch Schonlein purpura is characteristically seen in ?**

- a. Childhood
- b. Adolescence

- c. Middle age
- d. Old age

**ANS: A**

➤ **All are the risk factors for renal stone formation except ?**

- a. RTA
- b. Hyperparathyroidism
- c. Hypercalciuria
- d. Cystanosis

**ANS: D**

➤ **Peritoneal dialysis is contraindicated in ?**

- a. Old age
- b. LVF
- c. Ascites
- d. Pneumonia

**ANS: C**

➤ **An old man presented to you with painless hematuria. Ultrasound abdomen was done which was normal. what investigation will you do ?**

- a. Cystoscopy
- b. IVP
- c. Urinalysis
- d. MRI

**ANS: A**

➤ **Which of the following type of GN is associated with streptococcal infection in children ?**

- a. Focal segmental glomerulosclerosis
- b. Diffuse proliferative GN
- c. Membranous GN
- d. Mesangiocapillary GN

**ANS: B**

➤ **An old hypertensive CKD patient presents to ER with ECG showing tall tented T waves. what will be your immediate step of management ?**

- a. IV fluids
- b. Dialysis
- c. Calcium gluconate
- d. B2 agonist nebs
- e. IV dextrose and insulin

**ANS: C**

➤ **Decrease urinary chloride is seen in ?**

- a. Vomiting
- b. Diarrhea
- c. Thiazide diuretics
- d. Dehydration

**ANS: A**

➤ **Underlying cause of renal osteodystrophy is ?**

- a. Hyperphosphatemia
- b. Hypocalcemia
- c. Low vitamin D3
- d. Hyperparathyroidism

**ANS: D**

➤ **Which of the following is the reversible cause of AKI?**



- a. ATN
- b. DM
- c. SLE
- d. GN

ANS: A

➤ **Peritoneal dialysis is preferred over hemodialysis in ?**

- a. LVF with hypotension
- b. Cirrhosis
- c. Ascites
- d. Bleeding disorder
- e. Patient preference

ANS: A

➤ **Which of the following leads to normal anion gap metabolic acidosis ?**

- a. RTA and diarrhoea
- b. DKA
- c. Uremia
- d. Methanol toxicity

ANS: A

➤ **Which of the following is associated with partial lipodystrophy ?**

- a. MCD
- b. Membranous GN
- c. Mesangiocapillary GN
- d. DPGN

ANS: C

➤ **Which of the following is the least common cause of membranous GN ?**

- a. Lymphoma
- b. Malaria
- c. Hepatitis B
- d. Cryoglobulinemia

ANS: D

➤ **In tubulointerstitial disease which of the following is seen?**

- a. Hyperchloremic metabolic acidosis
- b. Normal GFR
- c. Normal kidney size
- d. Anuria

ANS: A

➤ **Aged male patient is having CKD, best treatment for him is ?**

- a. Dialysis
- b. Renal transplant
- c. Supportive therapy
- d. Peritoneal dialysis

ANS: B

➤ **Hexagonal crystals is the feature of ?**

- a. Oxalosis
- b. Cystinuria
- c. Calcinosis
- d. Proteinuria

ANS: B

➤ **In microalbuminuria urine albumin is ?**

- a. 30 to 300 mg /24 hours

- b. 350 mg/24 hours
- c. 300 mg/24 hours
- d. Greater than 300 mg/24 hours

**ANS: A**

➤ **Investigation of choice to diagnose reflux nephropathy is ?**

- a. Ct pelvis
- b. IV pyelography
- c. Retrograde pyelography
- d. Micturating cystourethrography

**ANS: D**

➤ **Which GN is associated with hepatitis B infection?**

- a. Minimal change disease
- b. Membranous GN
- c. FSGN
- d. Membranoproliferative GN

**ANS: B**

➤ **Which of the following is not a feature of amyloidosis ?**

- a. Macroglossia
- b. Proteinuria
- c. Cardiomyopathy
- d. Diarrhea

**ANS: D**

➤ **Most common cause of hyperkalemia is ?**

- a. Renal failure
- b. Diarrhea
- c. Conn syndrome
- d. Renal tubular acidosis

**ANS: A**

➤ **Diabetic patient HBA1C of 7.6 and Bp 130/95 and proteinuria of greater than 300mg/24 hours what will you suspect ?**

- a. Renal biopsy will show sclerosis
- b. Has less than 60 percent chance of developing overt renal failure
- c. There is no need of using antihypertensives
- d. No need to achieve glycemic control

**ANS: A** Nodular glomerulosclerosis (the Kimmelstiel-Wilson lesion) of diabetes mellitus

➤ **Most common infection after renal transplant is ?**

- a. CMV
- b. HPV
- c. HIV
- d. HBV

**ANS: A**

➤ **Scenario of 30 year old female presented with uncontrolled HTN and with bilaterally decrease in renal size . which of the following is the cause ?**

- a. Fibromuscular dysplasia
- b. HTN
- c. SLE
- d. CREST syndrome

**ANS: A**

➤ **Sodium rich food is ?**



- a. Cereals
- b. Cane of soup

**ANS: B**

➤ Patient of lupus nephritis developed renal cancer what is the cause ?

- A. Dialysis
- B. Cyclophosphamide
- C. MMF
- D. Methylprednisolone

**ANS: B**

➤ A patient with bronchogenic carcinoma developed glomerulonephritis . most likely histology of Glomerulonephritis will be?

- a. MCD
- b. Membranous GN
- c. DPGN
- d. FSGN

**ANS: B**

➤ Genitourinary TB may present with ?

- a. Non strile pyuria
- b. Sterile pyuria

**ANS: B**

=====

# MUSCULOSKELETAL SYSTEM

- CRP is characteristically normal in → SLE.
- ESR is high in active SLE.
- Anti Ds DNA is used to monitor the disease activity in SLE
- Best initial test for SLE is → ANA..
- Antihistone antibodies are positive in → Drug induced lupus (Procainamide, Hydralazine, isoniazid, phenytoin).
- There is no CNS and renal involvement in drug induced lupus.
- Drug induced lupus remit once drug is stopped.
- Most sensitive investigation for SLE is → ANA.
- Most specific investigation for SLE is → Anti-smith Antibodies > Anti-DsDNA.
- 1st Tarsometatarsal joint (base of big toe) is most commonly involved in → GOUT.
- Trapeziometacarpal joint (base of thumb) most common site of hand involved in osteoarthritis and over all most common site involved in osteoarthritis is knee joint.
- Pseudogout most commonly involves knee and wrist joint.
- Pseudogout → Positive birefringent rhomboid shaped crystals.
- Gout → Negative birefringent needle crystals.
- SLE is most common in young females (F:M → 9:1).
- Young female having hypertension and on U/S there is bilateral small kidneys what is the cause → Fibromuscular dysplasia.
- Renal failure one of the most common cause of death in SLE is
- Most common type of lupus nephritis is → Diffuse proliferative Glomerulonephritis.
- Diffuse proliferative glomerulonephritis shows wire looping of capillaries.
- Libman sac endocarditis involve → mitral and aortic valve.
- Lupus nephritis is associated with low complement level (C3, C4).
- Elevated APTT with SLE and recurrent miscarriages points towards the diagnosis of → antiphospholipid antibody syndrome.

APLS →

Raised APTT.

Pulmonary hypertension

Preeclampsia

Levodoreticularis.

Spontaneous recurrent abortions



- Positive anti-RO antibodies are associated with fetal heart block syndrome.
- Sjogren syndrome is associated with → Rheumatoid arthritis.
- Patient with Poorly controlled RA now presented with proteinuria, hypoalbuminemia, → Amyloidosis and for Dx → Rectal biopsy.
- Elderly man presented with pain and stiffness in shoulder girdle, there is pain but no weakness, CPK is normal and ESR is raised → PMR.
- Giant cell arteritis investigation of choice is → temporal artery biopsy
- In Takayasu arteritis → Biopsy is contraindicated and investigation of choice is MR aortogram.
- Bone fracture, bone pain, low calcium, low phosphate and high ALP, Looser's zone on xray → osteomalacia.
- Hypertensive, HBV +ve Patient presented with foot drop and abdominal pain, skin examination shows livido reticularis and purpura, Creatinine is high (renal failure), he is having testicular pain and **No** LUNG involvement → Polyarteritis Nodosa.
- Patient from (Arab, Jew, Turkish, Azarbaijan) presented with fever abdominal pain, signs of peritonitis, pleuritis, arthritis (leg involvement), (biopsy shows inflammation of tunica vaginalis) increase WBC and C reactive protein high → Familial Mediterranean fever Rx → colchicine.
- Dull shoulder pain and there is global restriction of shoulder movement in all directions, External rotation is more affected, There is pain at rest and both active and passive movements are affected → Adhesive capsulitis (Frozen shoulder most common in diabetics).
- Raynaud's phenomenon, **Tight skin** in face, below elbow and below knee joint, antinuclear antibodies are positive, sclerodactyly and esophageal dysmotility and evidence of calcinosis → CREST syndrome.
- Antibodies positive in patient with renal crisis in systemic sclerosis is --. Anti-RNA polymerase III.
- Tightening of skin in upper limb above elbow and in lower limb above knee joint, hypertension, lung fibrosis, renal involvement, ANTI-Scl-70 positive → diffuse cutaneous systemic sclerosis.
- Foot drop, ulnar nerve palsy, purpuric rash, arthralgia and Low C4 → Cryoglobulinemia.
- Old man presented with pain at the base of the thumb, tenderness and swelling at the 1<sup>st</sup> carpometacarpal joint, there is joint crepitus and pain at abduction of thumb → Osteoarthritis.
- Old man presented with weakness of finger flexors, weakness of shoulder, difficulty in swallowing, CPK level is normal and muscle biopsy shows internuclear or cytoplasmic helical filaments (Tonofilaments) → Inclusion body myositis.
- Anticoagulants are not part of standard treatment approach in Behcet's disease and venous thrombotic events are managed by controlling systemic inflammation with the help of **steroids (1<sup>st</sup> line)**.
- **Cyclophosphamide** leads to premature ovarian failure and infertility.

- Raynaud phenomenon, myositis, fibrosing alveolitis mechanics hands, CPK level is high, proximal myopathy, anti-Jo1 antibodies are positive → Polymyositis.
- Pain and swelling over lateral dorsal aspect of wrist and Finkelstein test is positive → De Quervain's Tenosynovitis.
- African lady presented with well demarcated macular rash with erythematous scales, photosensitivity, scarring alopecia and negative ANA and anti-dsDNA → Discoid lupus.
- Old man with history of osteoarthritis presented with swollen tender mass in the calf, Doppler shows compressible lumen → Baker's cyst.
- 30 year old female presented with history of fever, myalgias, limb claudication, multiple episodes of TIAs, lethargy, O/E there are absent limb pulses, carotid bruit, ECHO shows AR, there is high ESR and CRP what is your diagnosis → Takayasu arteritis (pulseless disease).
- Best way to differentiate between primary and 2° Raynauds is nail fold capillary examination, in 1° Raynauds they are normal and dilated and tortuous in 2° Raynauds.

**Primary Raynauds or Raynaud's disease** typically presents in young women (e.g. 30 years old) with **symmetrical attacks**. Primary Raynaud's can be diagnosed if all the following are present:

- No suspicion of underlying disease
- Symmetrical episodes affecting both hands, but not necessarily all fingers
- **No tissue necrosis, ulceration, gangrene or severe ischaemia**
- Normal nail-fold capillaries
- Normal ESR and negative anti-nuclear antibodies.

**2° Raynauds**: Factors suggesting underlying connective tissue disease (Raynaud's phenomenon 2°) Onset after 40 years, Episodes lasting in excess of one hour, Unilateral symptoms, Rashes, Features which may suggest rheumatoid arthritis or SLE, for example arthritis or recurrent miscarriages, **Digital ulcers**, calcinosis, **Fallout of nail fold capillary loops**, Presence of autoantibodies. **Most useful initial assessment**: Nail fold capillary loop examination, ideally by capillaroscope or by ophthalmoscope using magnification.

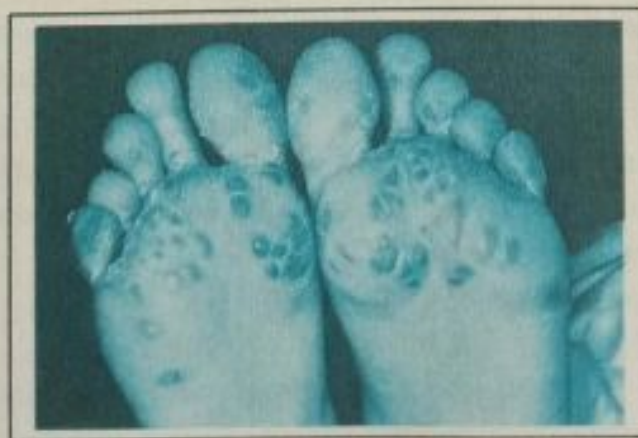
**Best initial management**: First-line treatment: calcium channel blockers e.g. nifedipine  
**Urgent treatment** of severe Raynaud's with threatened or established gangrene: IV prostacyclin

- Delayed respiratory depression is caused by → Morphine > fentanyl.
- Aortic valve insufficiency is associated with → Ankylosing spondylitis.
- Confirmation for carpal tunnel syndrome → Nerve conduction study.
- Smoker presented with pain on walking and digital ulceration and gangrene → Buerger's disease.
- Patient when sits down pain of low back ache is relieved → Spinal stenosis and pain is aggravated by sitting down is → disc prolapsed.
- Back ache aggravated by leg raise and sitting relieves the pain or leaning forward while walking and pain is aggravated by extension of lumbar spine and there is also lumbar lordosis → spinal cord stenosis.
- Best way to monitor disease activity in Paget's disease is → 6 monthly ALP.
- For skeletal survey in Paget's disease → bone scan is done.

*Last Days Revision Notes for IMM Medicine & MRCP 2nd edition*



- RCP guidelines states that individuals should take prophylaxis against osteoporosis if they are under 65 years of age and requiring steroids for longer than 3 months and Tscore of less than -1.5.
- ANA is present in 90% of cases of systemic sclerosis.
- Anti - Mi 2 antibodies are highly specific for dermatomyositis and anti-Jo1 for polymyositis.
- **Dicoid lupus erythematosus:** Common in young female, rarely progress to SLE, it is characterized by follicular keratin plugs. Erythematous raised rash, photosensitivity, lesions heal with atrophy and scarring (scarring alopecia). **Rx** topical steroids and oral HCQ and avoid sun exposure.
- **Mixed connective tissue disorder:** SLE + Systemic sclerosis and polymyositis → Anti-RNP positive.
- **Primary Sjögren syndrome:** RF is positive in 100% and anti-RO in 70% cases, ANA in 70% cases and there is low C4.
- **Aspirin 75 to 150 mg** has no effect on serum uric acid level and can be continued in gout.
- **Osteopetrosis:** Marble bone disease, **Osteoclast** dysfunction, failure of normal bone resorption. **Ix** shows normal calcium, phosphate and ALP and **Rx** is stem cell transplant and interferon Gamma.
- **Reactive arthritis:** Urethritis + arthritis + conjunctivitis = reactive arthritis, **Mnemonic** the Pt. can't see, can't pee, can't bend the knee.  
**Features:** Typically develops within 4 weeks of initial infection - symptoms generally last around 4-6 months. Arthritis is typically an **asymmetrical** oligoarthritis of lower limbs, **Dactylitis**. Symptoms of urethritis. **Eye:** conjunctivitis (seen in 50%), anterior uveitis  
**Skin:** Circinate balanitis (painless vesicles on the coronal margin of the prepuce), Keratoderma blennorrhagica (palmo-plantar pustulosis) (waxy yellow/brown papules on palms and soles).



- A patient presented with complaint of neck joint pain. X-ray shows triangular calcification → Pseudogout (chondrocalcinosis).
- HLA-B27 is positive in 90% of patients with AS and 10% of normal population.

- RA + splenomegaly + low white cell count = Felty syndrome.
- **Supraspinatus:** Most commonly damaged among rotator cuff muscles. It helps in abduction of arm.
- Patient is having gout and also hypertensive → Losartan should be used as antihypertensive as having specific uricosuric effect.
- **Pseudogout:** Calcium pyrophosphatedihydrate crystals, (Positive birefringent rhomboid shaped crystals) and xray of affected joint shows chondrocalcinosis. **Risk factors** include Hyperparathyroidism, Hypothyroidism, Hemochromatosis, Acromegaly, Low magnesium, Low phosphate, Wilson disease.
- Among connective tissue disorders systemic sclerosis is most strongly associated with → Raynaud's phenomenon.
- Most common ocular manifestation of RA is → Keratoconjunctivitis sicca.
- Episcleritis is painless and scleritis is painful.
- Rx of choice for familial Mediterranean (recurrent polyserositis) Fever is → colchicine.
- Periarticular erosions and joint **subluxation** is late xray finding of RA.
- Cubital tunnel syndrome → ulnar nerve compression.
- Malabsorption can develop in patient with scleroderma 2° to bacterial overgrowth in sclerodermatized small intestine.
- Unlike other autoimmune disease SLE become worse during pregnancy and puerperium.
- 1<sup>st</sup> carpometacarpal joint also known as trapeziometacarpal joint is most common joint of hand involved in Osteoarthritis.
- First line therapy in Ankylosing spondylitis is Exercise and NSAIDs, DMARDs are only used when there is peripheral joint involvement.
- Dermatomyositis, ANA are most common present in 90% cases and Anti-Mi2 are most specific and present in 25% of cases.
- Systemic sclerosis F:M = 4:1 ANA positive in 90% cases.
- 10 to 20% of patient with psoriasis develop arthropathy.
- Psoriatic arthritis is treated as RA but has got better prognosis.
- Decrease renal excretion of uric acid is thought to be responsible in 90% cases of primary gout.
- Serum uric acid may be normal or low during acute attack in case of Gout.
- Old patient presented to you with bone pain and his urine shows increase hydroxy proline what is your diagnosis → Paget's disease.
- Best way to monitor Paget's disease is → ALP level.
- Paget's can lead to high output cardiac failure.
- Xray findings in Paget's → subarticular translucency (osteolytic activity) and patchy areas of sclerosis → (osteoblastic activity).
- **Reactive arthritis:** triad of urethritis, conjunctivitis and arthritis. **Post STI (Chlamydia)** Reactive arthritis are more common in man and **Post dysentery** (shigella, salmonella, campylobacter) have equal sex incidence. **Rx** → NSAIDs. Methotrexate and sulphasalazine are only used in resistant cases.



- C3 and C4 level are low in SLE but LOW level of C4a and C4b are associated with increase risk of SLE.
- Anti-DsDNA titer is used to monitor disease activity.
- **Adult onset still disease:** Rheumatoid factor and ANA are typically negative. 15 to 35 year age most common. raised serum ferritin, arthralgia, salmon pink rash, pyrexia, lymphadenopathy.
- Thiopurine methyl transferase (TPMT) deficiency should be excluded before starting azathiopurine as it may lead to pancytopenia.
- **Churg strauss syndrome:** Asthma, mononucleitis multiplex, Eosinophilia greater than 10%, paranasal sinusitis, pANCA positive in 60% cases. there is also associated renal involvement CXR shows → Fluffy shadows, LTR antagonist can predispose to CSS.
- **Mesangiocapillary glomerulonephritis (membranoproliferative):** Type 1: Is associated with: → Cryoglobulinaemia, hepatitis C and **there is low C4.** Type 2: Is associated with partial lipodystrophy and there is Low C3.
- **Cryoglobulinemia:**
  - Type I:** Monoclonal - IgG or IgM. Associations: multiple myeloma, Waldenström macroglobulinaemia
  - **Type II:** Mixed monoclonal and polyclonal: usually with RF. **Associations:** HCV, lymphoma, RA, and Sjogren's
  - **Type III:** Polyclonal: usually with RF. **Associations:** RA, Sjogren's.
  - **Raynauds** is only seen in **type 1** cryoglobulinemia.
  - **Cryoglobulinemia** → Renal involvement is diffuse glomerulonephritis.
  - **Sjogren syndrome:** Low C4 and hypergammaglobulinemia. RF positive in 100% of cases and anti-RO in 70 percent, anti LA in 30 percent.
- **SLE:** More common in black and female (**F:M= 9:1**), Median age 20 to 40 years. Most commonly affects skin, joints, kidneys and brain. Most common constitutional symptom is Fatigue, most common hematologic finding is Lymphopenia and most common CNS symptom is headache. **Any ≥4 of the 11 criteria are required to classify a patient SLE.**
  1. Malar rash
  2. Discoid rash
  3. Photosensitivity
  4. Oral ulcers
  5. Arthritis
  6. Serositis (one of the following): Pleuritis, Pericarditis
  7. Renal disorder
  8. Neurological disorder, Psychosis:
  9. Haematological disorder
  10. Immunologic disorder (one of the following): Anti-DNA: presence of antibody to native DNA in abnormal titre, Anti-Smith: presence of antibody to Smith nuclear antigen, Positive findings of antiphospholipid antibodies based on: An abnormal serum level of IgG or IgM anticardiolipin antibodies Positive test result for lupus anticoagulant using a standard method.

- > APLS: First time DVT → warfarin for 6 months with target INR of 2 to 3. Recurrent DVT life long warfarin. If DVT occurred while patient is on warfarin then increase target INR to 3 to 4. If there is **arterial thrombosis** then life long warfarin.
- > **Drug induced lupus**: Renal and nervous involvement is unusual in drug induced lupus also ANA is positive ( 100% ), antihistone antibodies positive and antiDsDNA is negative. Drugs causing drug induced lupus are → **SHIP<sub>2</sub>** sulphonamides, hydralazine, isoniazid, phenytoin and procainamide.
- > **Neonatal lupus** → AV block, antiRo antibodies positive.

> Which one of the following features is least commonly seen in drug-induced lupus?

- Glomerulonephritis
- Arthralgia
- Myalgia
- Malar rash
- Pleurisy

ANS: A

> Which of the following is true about SLE?

- Arthralgias and arthritis are typically asymmetrical.
- The classic malar rash is seen in only 40% to 50% of patients.
- Stroke is the most common neurologic manifestation.
- Libman-Sachs endocarditis is the most common cardiac manifestation.
- Drug-induced lupus is typically irreversible

ANS: B Arthritis is Symmetrical and non erosive in SLE and Symmetrical erosive in RA.

> In drug induced lupus, ANA is negative for

- Hydralazine
- Isoniazid
- Quinidine
- Procainamide

ANS: C Drug induced lupus is typically ANA negative for Quinidine and Minocycline.

> **Poor prognostic features in RA:**

- RF +ve
- ACCP +ve
- HLA-DR4 +ve
- Xray shows early erosions
- Extra articular manifestations (nodules)
- Insidious onset.

> In acute attack of Gout in patient with renal derangement Colchicine should be given as NSAIDs are contraindicated in renal failure.



- Methotrexate is not safe in pregnancy and patient with RA should stop MTX at least 3 months before conception. RA tends to improve with pregnancy and flare up after delivery. Sulphasalazine and HCQ are safe in pregnancy. NSAIDs may be used till 32 weeks of pregnancy and after that they should be withdrawn as there is risk of early closure of PDA.
- Anti-Jo1 antibodies are most commonly seen in Polymyositis then Dermatomyositis.
- **Raloxifene:** Selective estrogen receptor modulator. Increases bone density in proximal femur and spine. Indicated for secondary prevention of osteoporosis when bisphosphonates are not well tolerated by patient. It may worsen post-menopausal symptoms and thromboembolic events but reduces the risk of breast cancer.
- **Denosumab:** Inhibits RANK-Ligand which inhibits maturation of osteoclasts. Given S/C every 6 months.
- Most suitable therapy for pain management in Osteoarthritis is → **Oral Paracetamol** and **Topical NSAIDs**
- **MCQ:** What is the most suitable management pain for the pain of Knee osteoarthritis?
  - Oral diclofenac + omeprazole
  - Oral glucosamine
  - Oral ibuprofen
  - Oral paracetamol

ANS: D

- **Meralgia paresthetica:** Compression of lateral cutaneous nerve of the thigh, typically burning sensation of anterolateral aspect of thigh.
- **Ankylosing spondylitis other features:**
  - Apical fibrosis
  - Anterior uveitis
  - Aortic regurgitation
  - Achilles tendonitis
  - AV block
  - Amyloidosis
  - And cauda equina syndrome.

<p><b>Medical Triad</b></p> <p><b>Behçet's Disease</b></p> <p>• Oral ulcers • Uveitis • Genital ulcers • Genital ulcers • Crohn's disease • Crohn's disease</p>	<p><b>Behçet's syndrome</b></p> <p>P.A.T.H.E.R.G.Y</p> <ul style="list-style-type: none"> <li>• Positive pathergy test</li> <li>• Aphthous mouth ulcers</li> <li>• Thrombosis (Arterial or venous)</li> <li>• Haemoptysis (pulmonary aneurysms)</li> <li>• Eye lesions (Uveitis, Retinal vasculitis)</li> <li>• Recurrent skin lesions</li> <li>• Genital ulcers</li> <li>• Young at presentation (3rd decade)</li> </ul>
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- **ACCP** antibodies may be detectable 10 years before development of RA. They have high specificity for RA.
- **RF** is positive in 5% of general population.
- **Behçet disease:** more common in male, triad of oral ulcers, genital ulcers and anterior uveitis. HLA-B5 and MICA 6 Allele. Inflammation of both artery and veins. Aseptic meningitis. Positive pathergy test.

- MCQ: 48 year old Rheumatoid Arthritis patient with sudden development of swollen calf what is your diagnosis ??
- Rupture of popliteal cyst
  - DVT
  - Septic Arthritis
  - Thrombophlebitis

ANS: A

- Rheumatoid factor is an IgM antibody against IgG
- Reactive arthritis: develops after an infection where the organism cannot be recovered from the joint
- Patients who are allergic to aspirin may also react to sulfasalazine
- L5 lesion features = loss of foot dorsiflexion + sensory loss dorsum of the foot
- SLE - antibodies associated with congenital heart block = anti-Ro
- Paget's disease of the bone is treated with bisphosphonates
- SLE: C3 & C4 low
- Patients with Sjogren's syndrome have an increased risk of lymphoid malignancies
- Haemochromatosis is a risk factor for pseudogout
- cANCA = granulomatosis with polyangiitis; pANCA = Churg-Strauss + others
- Repeated cramping and myoglobinuria after short bouts of exercise can point towards

#### McArdle's disease

- Previous chemotherapy is a significant risk factor for avascular necrosis
- S1 lesion features = Sensory loss of posterolateral aspect of leg and lateral aspect of foot, weakness in plantar flexion of foot, reduced ankle reflex, positive sciatic nerve stretch test
- Antiphospholipid syndrome: arterial/venous thrombosis, miscarriage, livedo reticularis
- Septic arthritis: IV flucloxacillin
- Dermatomyositis is associated with the anti-Jo-1 antibody
- External rotation is classically impaired in adhesive capsulitis
- Pseudogout - weakly positively birefringent rhomboid-shaped crystals
- Polyarteritis nodosa can cause a mononeuritis multiplex syndrome
- Osteoarthritis - paracetamol + topical NSAIDs (if knee/hand) first-line
- Hydroxychloroquine - may result in a severe and permanent retinopathy
- TNF- $\alpha$  inhibitors may reactivate TB
- Sulfasalazine is a disease-modifying anti-rheumatic drug which is safe in both pregnancy and breastfeeding
- The vast majority of gout is due to decreased renal excretion of uric acid
- Ankylosing spondylitis - x-ray findings: subchondral erosions, sclerosis and squaring of lumbar vertebrae
- Cubital tunnel syndrome is caused by compression of the ulnar nerve and can present with tingling/numbness of the 4th and 5th finger
- Discoid lupus erythematosus - topical steroids → oral hydroxychloroquine



- Patients with osteopetrosis have normal calcium, phosphate, ALP and PTH levels
- Azathioprine - check thiopurine methyltransferase deficiency (TPMT) before treatment
- Paget's disease - old man, bone pain, raised ALP
- Epoprostenol (amongst other prostaglandins) can be used in the treatment of Raynaud's phenomenon
- Bisphosphonates can cause a variety of oesophageal problems
- Antiphospholipid syndrome: (paradoxically) prolonged APTT + low platelets
- Staphylococcus aureus is the most common cause of osteomyelitis
- Azathioprine is metabolised to the active compound mercaptopurine, a purine analogue that inhibits purine synthesis
- Ehlers-Danlos syndrome is most commonly associated with a defect in type III collagen
- Limited (central) systemic sclerosis = anti-centromere antibodies
- Juxta-articular osteoporosis/osteopenia is an early x-ray feature of rheumatoid arthritis
- Leflunomide may cause hypertension
- Burning thigh pain - ? meralgia paraesthetica - lateral cutaneous nerve of thigh compression
- Lateral epicondylitis: worse on resisted wrist extension/supination whilst elbow extended
- Spinal stenosis is the most likely diagnosis in a patient with gradual onset leg and back pain, weakness and numbness which is brought on by walking (with a normal clinical examination)
- Osteoporosis in a man - check testosterone
- Chondrocalcinosis helps to distinguish pseudogout from gout
- Langerhans cell histiocytosis is characterized by Birbeck granules on electron microscopy
- Isoniazid can cause drug-induced lupus
- Marfan's syndrome is caused by a mutation in a protein called fibrillin-1
- Osteomalacia → Low: calcium, phosphate and raised: alkaline phosphatase
- Methotrexate works by inhibiting dihydrofolate reductase
- Marfan's syndrome - upwards lens dislocation
- Nifedipine is a pharmacological option for Raynaud's phenomenon
- Bisphosphonates are associated with an increased risk of atypical stress fractures
- Thiazide diuretics can precipitate an attack of gout
- The major target for pANCA is myeloperoxidase (MPO)
- Septic arthritis - most common organism: Staphylococcus aureus
- Anti-ribonuclear protein (anti-RNP) = mixed connective tissue disease
- DEXA scans: the T score is based on bone mass of young reference population
- Dermatomyositis antibodies: ANA most common, anti-Mi-2 most specific
- Anti-cyclic citrullinated peptide antibodies are associated with rheumatoid arthritis
- In patients with a new diagnosis of dermatomyositis, urgent malignancy screen is needed
- A Z-score is helpful in diagnosing secondary osteoporosis and should always be used for children, young adults, pre-menopausal women and men under the age of 50
- SLE: ANA is 99% sensitive - anti-Sm & anti-dsDNA are 99% specific
- Oral ulcers + genital ulcers + anterior uveitis = Behcet's
- Urethritis + arthritis + conjunctivitis = reactive arthritis
- Rheumatoid arthritis - TNF is key in pathophysiology

- Marfan's syndrome - dural ectasia
- NICE recommend co-prescribing a PPI with NSAIDs in all patients with osteoarthritis
- Osteomyelitis: MRI is the imaging modality of choice
- May be able to see apical fibrosis on chest x-ray in later ankylosing spondylitis
- Raynaud's disease (i.e. primary) presents in young women with bilateral symptoms
- Bisphosphonates inhibit osteoclasts
- Anterior uveitis, Aortic regurgitation, Achilles tendonitis, AV node block, Amyloidosis
- Mycophenolate mofetil inhibits of inosine-5'-monophosphate dehydrogenase which is needed for purine synthesis
- Rheumatoid arthritis: patients have an increased risk of IHD
- Pseudoxanthoma elasticum is associated with mitral valve prolapse and increased risk of ischaemic heart disease
- Marfan's syndrome is associated with dilation of the aortic sinuses which may predispose to aortic dissection
- Paget's disease - increased serum and urine levels of hydroxyproline
- Inflammatory arthritis involving DIP swelling and dactylitis points to a diagnosis of psoriatic arthritis
- Radial tunnel syndrome presents similarly to lateral epicondylitis however pain is typically distal to the epicondyle and worse on elbow extension/forearm pronation
- An asymmetrical presentation suggests psoriatic arthritis rather than rheumatoid
- The concurrent use of methotrexate and trimethoprim containing antibiotics may cause bone marrow suppression and severe or fatal pancytopenia.

### Multiple choice questions

- Middle age lady presented with raynauds phenomenon associated with systemic sclerosis. which of the following is most appropriate step in management ?
  - a. Amphetamines
  - b. Ergotamines
  - c. Warm clothing
  - d. Betablockers
 ANS: C
- A patient on ATT developed joint pain. what is your diagnosis ?
  - a. Gout
  - b. pseudo gout
  - c. RA
  - d. OA
 ANS: A
- Difference between SLE and MCTD is ?
  - a. Scleroderma
  - b. Renal involvement
  - c. Arthritis
  - d. Myositis
 ANS: A



- The most common nonskeletal manifestation of osteomalacia is
- Hyperphosphatemia
  - Hypoparathyroidism
  - Proximal myopathy
  - Hypercalcemia
  - Nephrocalcinosis

ANS: C

- Pseudogout findings include ?
- Positive birefringence rhomboid shaped crystals
  - Negative birefringence needle shaped crystals

ANS: A

- Patient who is a diagnosed case of gout well controlled on drugs , what will you give as prophylaxis to prevent further attack ?

- Colchicine
- Allopurinol
- Low dose aspirin
- NSAIDS

ANS: B

- A patient who is a known case of gout was prescribed ACE inhibitors and CCbs , patient is also alcohol addict .What do you think is the most like cause of this attack ?

- ACE inhibitors
- CCBS
- Alcohol
- Chronic disease

ANS: C

- A patient of RA developed periorbital edema , what is the most likely cause ?

- Cardiac failure
- Renal amyloidosis
- Steroid
- Liver failure

ANS: B

- Young Patient with chronic history of back ache for last 2 years associatd with decreased chest expansion and there is bilateral upper lobe fibrosis , what is the most likely cause ?

- Ankyloising spondylitis
- TB
- Sarcoidosis
- Rheumatoid arthritis

ANS: A

- DMARDS which reduces progression of disease in RA?

- Methotrexate
- Steroids
- NSAIDS
- Penicillamine

ANS: A

- Patient presented with fatigue myalgia , arthritis and proteinuria and ANA and anti RNP positive . what is your diagnosis ?

- MCTD
- SLE

- c. Crest syndrome
- d. Drug induced

ANS: A

> For drug induced SLE which test is performed?

- a. Antihistone antibodies
- b. Anticentromere antibodies
- c. Anti-ro antibodies
- d. Anti-La antibodies

ANS: A

> A 20 year old boy presented to you in OPD with complaint of low back ache for many days. he tells you further that his spine become stiff early in the morning and improves gradually with activity during the day. What is your diagnosis?

- a. RA
- b. Gout
- c. OA
- d. Ankylosing spondylitis

ANS: D

> True regarding SLE is?

- a. CRP level is used to monitor disease activity
- b. Anti-DsDNA level is used to monitor disease activity
- c. ESR remain normal
- d. ANA level is used to monitor disease activity

ANS: B

> A patient comes to you with complain of joint pains and muscle pain, she also look jaundiced, which screening test will you advice?

- a. ANA
- b. Anti-DsDNA
- c. Anti-smith
- d. Anti-RO

ANS: A

> If a patient has DIP joint involvement and hyperkeratosis. what is your diagnosis?

- a. Rheumatoid arthritis
- b. Psoriatic arthritis
- c. IBD arthropathy
- d. Lupus arthritis

ANS: B

> CREST syndrome consist of all of the following except?

- a. Raynauds phenomenon
- b. Esophageal dysmotility
- c. Scleroderma
- d. Talengectasia

ANS: C

> A lady presents to you in OPD and ulcer in her mouth. she tells you that she has ulcer once and she has some lesions on her genital area, she also complaining of joint pain. what is your diagnosis?



- a. Sarcoidosis
- b. Lyme disease
- c. Behcets disease
- d. SLE

ANS: C

➤ A patient presents to you with bone pains and his urine reports shows hydroxylproline . what is your diagnosis ?

- a. Pagets disease
- b. Osteomalacia
- c. Rickets
- d. Bone tumor
- e. Osteoporosis

ANS: A

➤ Osteoarthritis most commonly occurs at ?

- a. Hip joint
- b. Knee
- c. Base of thumb
- d. DIP joints of hand

ANS: B

=====

# INFECTIOUS DISEASES

- HIV patient with watery diarrhea diagnosed as case of cryptosporidium what is management  
→ Supportive therapy no antibiotics are needed.
- Schistosomiasis is the most common cause of urinary bladder calcification world wide and important risk factor for bladder squamous cell cancer of the urinary bladder.
- Mumps related meningitis is associated with low → CSF glucose level.
- Most common organism found in pyogenic liver abscess is staph aureus in children and Ecoli in adults.
- Most common cause of pyogenic liver abscess is → Ascending Cholangitis.
- Most reliable blood test finding in liver abscess is → Raised ALP.
- Peripheral smear in enteric fever will show → Leukopenia and lymphocytosis.
- Drug of choice for Anthrax is → ciprofloxacin.
- Organism responsible for neonatal sepsis after PROM is → Group B streptococci.

## Widal test interpretation

- H antigen positive → previous infection or vaccination.
- O antigen positive → Active infection.
- Vi antigen positive → Carrier state.
- HbsAg is the first marker to appear in → HBV infection.
- Brucella affects mainly Reticuloendothelial system.

## HIV and Diarrhoea →

May be due to HIV itself (HIV enteritis)  
Or

- Cryptosporidium most common cause of infective diarrhoea in HIV.
- Cytomegalo virus
- Mycobacterium avium complex.

- Itchy vulva, pain during sex and offensive greenish discharge from past two weeks  
Trichomonas vaginalis.

## Vaginal discharge

**Candida** → Cottage cheese discharge. Vulvitis and itch.

**Trichomonas vaginalis** → Offensive yellow /Green frothy discharge. vulvovaginitis and strawberry cervix.

**Bacterial vaginosis** → Offensive thin white grey discharge (fishy odour → Whiff test) A whiff test is performed by adding several drops of 10 % potassium hydroxide to a sample of vaginal discharge. A strong fishy odor is indicative of a positive test clue cells under microscope And vaginal pH greater than 4.5.



### Malaria

- ① Plasmodium malariae can lead to \_\_\_\_ Nephrotic syndrome (Membranous GN)
- ② Plasmodium Vivax and ovale has Hypnozoite stage (Hypnosis means sleep)
- ③ Hypnozoites sleep in liver and is the Longest phase of Life cycle)
- ④ Primaquine is DOC to kill Hypnozoites.
- ⑤ Shortest pre-erythrocytic phase is seen in \_\_\_\_ Plasmodium Falciparum.
- ⑥ Longest pre-erythrocytic phase is in \_\_\_\_ Plasmodium Malariae
- ⑦ Species that cause relapse are \_\_\_\_ vivax and ovale
- ⑧ Most common non falciparum malaria is \_\_\_\_ Plasmodium Vivax.
- ⑨ DOC for Non-falciparum malaria is \_\_\_\_ Chloroquine .According to WHO guidelines artemisinin based combination is given for plasmodium falciparum malaria as there is increased chloroquine resistance in Asia and Africa.
- ① ① Malignant tertian malaria is caused by \_\_\_\_ Plasmodium falciparum
- ① ① Benign tertian malaria (48 hours) is caused by \_\_\_\_ ovale/vivax
- ① ② Quartan malaria (72 hours ) caused by \_\_\_\_ Plasmodium Malariae
- ① ③ Quotidian malaria caused by \_\_\_\_ Plasmodium falciparum and plasmodium Knowlesi
- ① ④ Anemia in malaria is \_\_\_\_ Normocytic normochromic.
- ① ⑤ Dormant phase of malaria \_\_\_\_ Hypnozoite
- ① ⑥ Malaria enter into human body as \_\_\_\_ Sporozoite
- ① ⑦ Sporozoite divide in liver as \_\_\_\_ Merozoite
- ① ⑧ Hypnozoite stage is present in \_\_\_\_ Ovale and vivax
- ① ⑨ New specie of malaria is \_\_\_\_ Knowlesi.

- Plasmodium falciparum invades red blood cells of all ages especially young cells .
- Plasmodium vivax and ovale invades reticulocytes .
- Plasmodium malariae invades normoblasts .
- In malaria merozoite stage of plasmodium attacks RBCs.
- Merozoite stage of plasmodium falciparum invade RBCs

### MCQ:

Which of the following statements is true regarding FALCIPARUM MALARIA?

- A. Only affects younger generation of RBCs
- B. It causes Quartan malaria
- C. DOC is Mesna
- D. Resistance has not yet developed in most parts of South Africa
- E. Sample from ear lobule gives the highest yield

ANS E

### Explanation:

Blood obtained by pricking a finger or earlobe is the ideal sample because the density of developed trophozoites or schizonts is greater in blood from capillary rich areas .As ear lobule contain Rich capillary network so plasmodium parasites are sequestered in microvasculature as compared to venous blood so capillary blood has highest yield as compared to venous blood , rest of options are wrong.

**Best treatment of malaria in psoriasis is → Artemether.,(chloroquine is contraindicated).**

- Gravest complication of falciparum. → Algid
- Best drug for chloroquine resistant falciparum...artem>>meflo>>doxy
- For life threatening malaria → Iv artesunate

- Prophylaxis of malaria → chloroquine in chloroquine sensitive areas.
- Prophylaxis in pregnancy. → chloroquine >>> proguanil >>> malarone
- Feared complication in malaria → ARDS
- Transmission of malaria is by → Female anopheles mosquito
- Contraindicated in Epilepsy → Chloroquine and mefloquine
- Children prophylaxis for malaria before 12 years → Diethyltoluamide
- Recurring malaria → Give primaquine
- Malaria with psoriasis → Artem

### AMEBIC liver abscess

- Commonest site for Extraintestinal Amoebiasis → Liver
- Hepatic Amoebiasis occurs due to → Invasion of Portal Venous System
- Commonest cause of Pleuropulmonary Amoebiasis → Ruptures through the Right Hemidiaphragm → Contagious Spread
- Commonest cause of Cerebral Amoebiasis → Hematogenous Spread
- Commonest site in Cerebral Disease → Frontal Lobe (2nd is Basal ganglia)
- Commonest Side of brain involved → Left Side > Right side
- Genitourinary Amoebiasis → Direct spread of Colon > Hematogenous e spread
- Commonest Complication of Amebic Liver abscess → Pleuropulmonary involvement
- Pericardial Amoebiasis → Rupture of Left lobe of liver
- Most sensitive and specific method for identifying E. histolytica → PCR Assay For DNA in Stool samples
- Definitive diagnosis of Amebic Colitis → Demonstration of hematophagous trophozoites of E. histolytica in at least 3 fresh stool samples
- Confirmation of Ameboma → Trophozoites in Clonic mass biopsy specimen
- Best for diagnosis of Amoebic Liver abscess → PCR > Serology >>>> Imaging
- DOC for Asymptomatic Carriage → Iodoquinol
- DOC for Acute Colitis → Metronidazole ( 2nd choice Tinidazol ) + Iodoquinol
- DOC for Amebic liver abscess → Metronidazole ( 2nd choice Tinidazol ) + Iodoquinol
- For Prevention of Amoeba → Iodination of Water (Chlorination is not effective).
- After clinical cure abscess cavity disappears in → **6 to 9 months.**
- **Drainage of abscess is indicated →**
  - if there is single large abscess of 10 cm .
  - Left lobe abscess >5cm as left lobe abscess can rupture into pericardial or pleural cavity.
  - Resistant to treatment

Ref → : Harrison Infectious Diseases 2/Ed

- Most common complication of mumps in children is → aseptic meningitis .
- Most common complication of mumps in adults is → Orchitis.
- A patient with agranulocytosis would most common have → Sore throat.
- A nurse has needleprick injury , what to do → Vaccination plus immunoglobulins.



- HIV positive patient presented with meningeal irritation, CSF analysis is positive for India ink stain → *Cryptococcus neoformans*.
- Most common organism causing diarrhea in HIV positive patient is → *Cryptosporidium*.
- Charcot joints occurs in DM, tabes dorsalis syphilis, leprosy, and syringomyelia.
- Diarrhea leads to normal anion gap metabolic acidosis.
- PZA is most hepatotoxic amongst ATT drugs.
- Dose of Ethambutol should be adjusted in renal failure.
- Granuloma inguinale is caused by *Calymmatobacterium* (*Klebsiella granulomatis*).
- In management of ATT induced jaundice first drug to introduce after LFTs become normal is → Isoniazid.
- Most nephrotoxic ATT is → Streptomycin >>> ethambutol >> rifampicin
- ATT 1st line drugs safe in pregnancy and if patient is on streptomycin stop it.
- MDR TB is resistant to INH and Rifampicin
- Rifampicin causes nephrotic syndrome.
- XDR is resistant to rifampicin plus INH plus fluoroquinolone plus injectable Aminoglycoside.
- Genital tuberculosis mostly affects epididymis in male.
- In tuberculosis meningitis treatment duration is 12 months
- Amyloidosis can also occur in tuberculosis patient.
- In latent TB treatment is ISONIAZID for 6 months
- Only TB in which we give steroids → tuberculous meningitis.
- In tuberculosis meningitis treatment is 12 months
- Ethambutol needs dose adjustment in CKD.
- Soldier returning with 3 day history of fever. Intercellular ameboid like organism seen with blue cytoplasm → Babesiosis.
- Most common organism causing SBP is → *ECOLI*. DOC is cefotaxime, and prophylaxis is Ofloxacin.
- HIV patient come with esophagitis what is the cause → **Candidiasis** most common cause. If no improvement to treatment or deep ulcers on endoscopy then CMV
- Treatment of actinomycosis → penicillin.
- An alcoholic patient presents with fever and chest pain. His sputum shows mixed organisms what is the cause → Aspiration pneumonia.
- In genitourinary TB which of the following can be seen → sterile pyuria.
- PCWP is normal in → ARDS.
- MCQ: Which of the following has longest incubation period :

- a. Salmonella
- b. Shigella
- c. E. coli
- d. Staph aureus

ANS: B

Explanation:

Incubation period:

1-6 hrs: Staphylococcus aureus, Bacillus cereus\*

12-48 hrs: Salmonella, Escherichia coli

48-72 hrs: Shigella, Campylobacter

> 7 days: Giardiasis, Amoebiasis.

HIV exposure		
Sexual		0.05%
Vaginal intercourse: female to male		0.1%
Vaginal intercourse: male to female		0.05%
Anal intercourse: insertive		0.5%
Anal intercourse: receptive		0.005%
Oral intercourse: insertive		0.01%
Oral intercourse: receptive		
Blood exposure		90%
Blood transfusion		0.67%
Recreational drug users sharing needles		0.3%
Pericardiac needle stick injury		0.09%
Sharps container splash		
Mother to child		15%
Vaginal delivery		0.5%
Breastfeeding per month		

MCQ: Risk of HIV transmission after exposure is greater with

- a. Needle sharing
- b. Heterosexual
- c. Mucosal splash injury
- d. IV drug abuse

ANS: A

Route	Hep B	Hep C	HIV
Needle prick	Approx. 30 %	3%	0.3%
Vertical	20 % without treatment 90 % when (Hep B eAg positive (pass med. history)) Decrease to <20% when treated	3-5 % (medscape) 6 % (pass medicine)	25-50% (without treatment) 2% with treatment (Medscape) 15 % (Davidson)
This table covering around 15 mugs. Remember the per cent in prayers who made this table. Share with others too			
Blood transfusion (a.b.)	1/1.3 million (ref. mcb.)	1/33 million	1/6.5 million 90 % Davidson.
Sexual intercourse	30 % in developed countries (pass med.)	5% (pass med.)	0.01 to 0.5 % see Davidson table pg 392 22 <sup>nd</sup> edition.
Breast feeding	Safe	Safe	Contraindicated 20-40 % (no consistent per)
Sexual intercourse	Perinatal Transmission is most common route of transmission (ref. mcb-notes)		Most sexual is most common route of 90% cases (Oxford medicine). The greatest risk of getting infection is through blood transfusion

Explanation: After exposure most common risk of HIV transmission is → Blood transfusion  
 > Vaginal delivery > IV drug abuser with needle sharing > Anal intercourse > breast feeding.



Worldwide there are an estimated 36.9 million persons infected with HIV, with heterosexual spread being the most common mode of transmission for men and women. The reason for the greater risk for transmission with heterosexual intercourse in Africa and Asia than in the United States may relate to cofactors such as general health status, the presence of genital ulcers, relative lack of male circumcision, the number of sexual partners, and different HIV serotypes. It is estimated that in 2016, 19.5 million persons infected with HIV were receiving treatment (53%), up from 17.1 million in 2015.



MCQ: World wide transmission of HIV mostly occurs through :

- Heterosexual
- Sharing needles
- Blood products
- Needle stick injury
- Homosexual

ANS: A Explanation most common cause of HIV spread across the world is → Heterosexual activity.

### HIV

- Needle prick → 0.3%
  - Perinatal transmission → 25- 30%
  - Most commonly spread through → heterosexual
  - AIDS defined by  $CD4 < 250$
  - Start HAART at  $CD4 < 350$  old study . New study says that start HAART therapy straight away.
  - Conventional HIV antibody test by ELISA
  - Confirmatory WESTERN BLOT
  - P jiroveci most common opportunistic pneumonia in AIDS
  - TOXOPLASMOSIS most common CNS lesion
  - CANDIDA common of esophagitis
  - If no improvement with treatment then consider CMV HERPES
  - **HIV Esophagitis with deep ulcers → CMV**
  - HYPOGONADISM is most common endocrine abnormality in HIV infected men
  - Most common type of glomerulonephritis in HIV is → FSGN
  - Cryptosporidium most common cause of infective diarrhoea in HIV .
  - HIV colitis most common cause is Clostridium difficile
- Vincent angina lesion site is at GUMS .
  - Most reliable sign in peripheral smear in TTP is → Schistocytes.
  - ELISA is an excellent screening test for HIV.
  - Atypical pneumonia presents with → Dry cough.
  - Risk of HBV transmission through needle stick injury is 1 to 33%.
  - Risk of HCV transmission through needle stick injury is → 3%
  - Risk of HIV transmission through needle stick injury is → 0.3%.
  - Risk of vertical transmission of HBV is → 20 % if mother HBsAg positive then 90%.

- Risk of vertical transmission of HCV is → 3 to 5 %.
- Risk of vertical transmission of HIV is → 25 to 30 %.
- Risk of HIV transmission through breast feeding is → 0.5 % per month =  $24 \times 0.5 = 12\%$
- **Factors which reduce vertical transmission (from 25-30% to 2%):**
  - 1) Maternal antiretroviral therapy.
  - 2) Mode of delivery (caesarean section).
  - 3) Neonatal antiretroviral therapy.
  - 4) Infant feeding (bottle feeding).
- A patient with recurrent arthritis recalls an acute illness with fever and severe dermatitis one year earlier which of the following is most likely diagnosis → Lyme disease.
- Most likely cause of protein losing enteropathy is → menetriers disease.
- MALT lymphoma due to HPYLORI is treated with → HpYlori eradication therapy.
- Avian flu (H5N1) occurs in → China ( birds to humans ).
- Swine FLU → H1N1.
- 30 yearold male patient presented with hematuria ,urine examination shows eggs with spike what is the diagnosis → Shistosomiasis.
- Mother is HBsAG positive and HBeAG positive what treatment will you give → vaccination plus immunoglobulins.
- Erysipelas is caused by → Exotoxin producing organisms .
- **MCQ** A young male patient developed high grade fever , rash and ultered level of consciousness . O/E there is neck stiffness and multiple bruises on his legs .what complications should you look for in this patient ?
  - a. Cerebral abcess
  - b. Respiratory failure
  - c. Adrenal insufficiency
  - d. DIC

ns: C

**Explanation ;** Meningococemia , best investigation is serology , LP is contraindicated at times , tablet ciprofloxacin to close contacts and vaccination once serology is available.

#### Incubation periods

Questions may either ask directly about incubation periods or they may be used to provide a clue in a differential diagnosis

< 1 week	1 - 2 weeks	2 - 3 weeks	>3 weeks
<ul style="list-style-type: none"> <li>• Influenza</li> <li>• Diphtheria</li> <li>• Scarlet fever</li> <li>• Meningococcus</li> </ul>	<ul style="list-style-type: none"> <li>• Measles</li> <li>• Malaria</li> <li>• Typhoid fever</li> <li>• Dengue fever</li> </ul>	<ul style="list-style-type: none"> <li>• Mumps</li> <li>• Rubella</li> <li>• Chickenpox</li> </ul>	<ul style="list-style-type: none"> <li>• Viral hepatitis</li> <li>• HIV</li> <li>• CMV</li> <li>• IMN</li> </ul>

- Most common cause of death in influenza is → pneumonia .
- Following splenectomy most common complication is → infection.



- Most common organism causing sepsis after Splenectomy is *Streptococcus Pneumoniae* / *Pneumococcus* (50% of all cases). Order of infections Post-Splenectomy *S. Pneumoniae* > *H. Influenza* > *Meningococcus* >  $\alpha$   $\beta$  -Hemolytic *Strept* > *Staph. Aureus* > *E.coli* > *Pseudomonas*.
- Learn the following table by heart for Management of splenectomy patient :



#### 24.40 Management of the splenectomised patient

- Vaccinate with pneumococcal, *Haemophilus influenzae* type B, meningococcal group C and influenza vaccines at least 2-3 wks before elective splenectomy. Vaccination should be given after emergency surgery but may be less effective.
- Pneumococcal re-immunisation should be given at least 5-yearly and influenza annually. Vaccination status must be documented.
- Life-long prophylactic penicillin V 500 mg twice daily is recommended. In penicillin-allergic patients, consider a macrolide.
- Patients should be educated regarding the risks of infection and methods of prophylaxis.
- A card or bracelet should be carried to alert health professionals to the risk of overwhelming sepsis.
- In septicemia, patients should be resuscitated and given IV antibiotics to cover pneumococcus, *Haemophilus* and meningococcus, according to local resistance patterns.
- The risk of cerebral malaria is increased in the event of infection.
- Animal bites should be promptly treated with local decontamination and antibiotics, to prevent serious soft tissue infection and septicemia.

- MCQ: Young man with history of fever neck stiffness and rash on body, what is the investigation of choice .  
A. Csf analysis  
B. Meningococcal serology  
C. Ct scan brain  
D. Blood CS

ANS: B

- Succession splash is positive in  $\rightarrow$ Hydropneumothorax.
- HIV patient with hairy plaques on lateral surface of tongue  $\rightarrow$ hairy leukoplakia.
- Drug of choice for aspiration pneumonia  $\rightarrow$  clindamycin.
- Patient presented with dysuria, urethral discharge, gram staining shows neutrophils but no bacteria what is your diagnosis  $\rightarrow$ chlamydia trachomatis.
- Azithromycin is treatment of choice for lymphogranuloma venereum.
- Meningitis, brain stem involvement and immunocompromised patient ( gram positive rod )  $\rightarrow$  *Listeria monocytogenes*.
- Ataxia, seizures, headache, meningism, pneumonia, diarrhoea, not responding to cephalosporins and tumbling mobility  $\rightarrow$  *Listeria monocytogenes*. (Rx  $\rightarrow$  Amoxicillin and Gentamycin).
- Urethral discharge dysuria and gram negative dipococci  $\rightarrow$  Gonorrhea.
- Tenosynovitis, Migratory polyarthrititis and Dermatitis  $\rightarrow$  disseminated gonococcal infection.
- Patient with gonorrhea received ceftriaxone but unfortunately his symptoms were not resolved what is your diagnosis  $\rightarrow$  Co-existent Chlamydia infection.
- HIV positive patient, CD4 count less than 200, dry cough, very few chest signs Exacerbated induced desaturation, hepatosplenomegaly choroid lesions  $\rightarrow$  *Pneumocystis jirovecii*.

- pneumonia. LABS shows → Bilateral interstitial pulmonary infiltrates, BAL silver stain shows cysts. Rx: Co-trimoxazole, and IV pentamidine. Steroids are used when patient is hypoxic ( $PaO_2 < 9.2 \text{ kPa}$  or  $70 \text{ mmHg}$ )
- Walking bare foot, now presented with abdominal pain, diarrhoea, pneumonitis, papulovesicular rash on soles of feet, linear rash over the groin and eosinophilia → Strongyloides Stercoralis.
  - Handicapped Child is having perianal itching at night → Entrobium vermicularis (treatment is mebendazole).
  - Eating raw pork, fever, periorbital edema and myositis → Trichinella spiralis.
  - Black fly, blindness, hyperpigmented skin → Onchocerca volvulus.
  - Dog faeces contact, egg ingestion, visceral larva migrans, eye granuloma, liver and lung involvement is → Toxocara canis.
  - Swimmers itch, hematuria, bladder calcification, → Schistosomiasis.
  - Cholangiocarcinoma → clonorchis sinensis.
  - Wide spread pruritis, linear burrows on the side of fingers, interdigital webs, flexor aspect of wrist → Scabies.
  - Suppressed immunity, HIV patient and crusted skin scabies → Norwegian scabies.
  - HSV encephalitis is confirmed by CSF PCR HSV.
  - Start antiretroviral therapy in every HIV positive patient regardless of CD4 count.
  - Man returns from trip abroad with maculopapular rash and flu-like illness - think HIV seroconversion
  - Infectious mononucleosis is generally a self-limiting condition
  - The Jarisch-Herxheimer reaction is a known phenomenon following syphilis treatment that does not require any specific treatment or investigations other than antipyretics
  - Haematuria + bladder calcification → schistosomiasis IV ceftriaxone should be used as first-line
  - Disseminated gonococcal infection triad = tenosynovitis, migratory polyarthritis, dermatitis
  - All patients with a CD4 count lower than  $200/\text{mm}^3$  should receive prophylaxis against Pneumocystis jiroveci pneumonia
  - Eikenella is notable as a cause of infections following human bites
  - Staphylococcus aureus is associated with cavitating lesions when it causes pneumonia
  - Mycoplasma is associated with erythema multiforme
  - HIV antibody testing is most reliable 3 months post exposure
  - HIV, neuro symptoms, widespread demyelination - progressive multifocal leukoencephalopathy
  - Streptococcus pneumoniae is associated with cold sores
  - Granuloma inguinale - Klebsiella granulomatis
  - Animal bite - co-amoxiclav
  - Post-exposure prophylaxis for HIV: oral antiretroviral therapy for 4 weeks
  - Bilateral conjunctivitis, bilateral calf pains and high fevers in a sewage worker suggests leptospirosis
  - If a sexually active patient presents with genital chlamydia and bowel symptoms, LGV proctocolitis should be considered
  - Listeria monocytogenes - Gram-positive rod
  - Asymptomatic bacteriuria should not be treated except in pregnancy, children younger than 5 years or immunosuppressed patients due to the risk of complications



- Hookworms may cause an iron deficiency anaemia in patients returning from travel to endemic areas e.g. the Indian subcontinent
- Schizonts and late stages of trophozoites are typically sequestered in *Plasmodium falciparum* infection and their presence on the peripheral smear indicates severe disease
- Kaposi's sarcoma - caused by HHV-8 (human herpes virus 8)
- Severe *falciparum* malaria - intravenous artesunate
- Dengue is transmitted by the *Aedes aegypti* mosquito
- *Legionella pneumophila* is best diagnosed by the urinary antigen test
- Leptospirosis - give penicillin or doxycycline
- Tetracyclines can cause photosensitivity
- Human bites, like animal bites, should be treated with co-amoxiclav
- HIV: anti-retrovirals - P450 interaction • nevirapine (a NNRTI): induces P450 and • protease inhibitors: inhibits P450
- Bacterial vaginosis: oral metronidazole
- Atypical lymphocytes - glandular fever
- Amoebiasis should be considered in the presentation of dysentery after a long incubation period
- HIV, neuro symptoms, multiple brain lesions with ring enhancement - toxoplasmosis
- Rabies - following possible exposure give immunoglobulin + vaccination
- Primaquine is used in non-*falciparum* malaria to destroy liver hypnozoites and prevent relapse
- Live attenuated vaccines BCG MMR oral polio yellow fever • oral typhoid
- *Clostridium* - Gram-positive rod
- Macrolides such as clarithromycin are used to treat *Legionella*
- Gonorrhoea is a gram-negative diplococci that can be identified on gram staining
- Benznidazole is used in the acute phase of Chagas' disease to manage the illness
- young women immunocompetent patients with toxoplasmosis don't usually require treatment
- Intramuscular ceftriaxone is the treatment of choice for Gonorrhoea
- Animal bites are generally polymicrobial but the most common isolated organism is *Pasteurella multocida*
- Hepatitis C - 55-85% become chronically infected
- Leprosy leads to skin hypopigmentation
- Renal transplant + infection → CMV
- Heterophile antibodies - infectious mononucleosis
- *Staphylococcus aureus* is a gram+ve bacterium, catalase +ve, coagulase +ve organism
- Kaposi's sarcoma is caused by HHV-8 infection in HIV positive individuals
- Stereotypical features of *Legionella* include flu-like symptoms and a dry cough, relative bradycardia and confusion. Blood tests may show hyponatraemia Supportive therapy is the mainstay of treatment
- HIV, neuro symptoms, single brain lesions with homogenous enhancement - CNS lymphoma
- Acute toxoplasmosis in the immunocompetent patient can mimic acute EBV infection (low-grade fever, generalised lymphadenopathy with prominent cervical lymph nodes and malaise) and should be suspected with negative EBV serology.
- Bacterial vaginosis - overgrowth of predominately *Gardnerella vaginalis*
- Following treatment for syphilis: TPHA remains positive, VDRL becomes negative
- **Genital ulcers: Painful:** herpes much more common than chancroid **painless:** syphilis more common than lymphogranuloma venereum
- Pneumonia in an alcoholic - *Klebsiella*

- Recurrent herpes outbreaks in pregnancy should be treated with suppressive therapy; risk of transmission to the baby is low and aciclovir is safe to use in pregnant.



# HEMATOLOGICAL SYSTEM

- 9:22 translocation is good prognosis in CML and bad prognosis in ALL.
- 12:21 translocation is good prognosis in → ALL.
- IgG and IgA are the most common type of immunoglobulin produced in → Multiple myeloma. (IgG > IgA > IgM).
- IgM paraproteinemia is more common in → Waldenstrom's Macroglobulinemia.
- Combined oral contraceptive pills are more likely to cause venous thrombosis than → Estrogen only pills.
- **Some Facts About Hodgkin's Lymphoma**
  - ▶ Commonest HL → Nodular Sclerosis HL (lacunar cells and most common in female)
  - ▶ Least common HL → Lymphocyte depleted HL
  - ▶ HL with Best Prognosis → Lymphocyte Predominant HL
  - ▶ HL with worst Prognosis → Lymphocyte depleted HL
  - ▶ Commonest with Mediastinal Involvement → Nodular Sclerosis HL
  - ▶ Commonest nodes affected → Cervical LNs
  - ▶ Most Aggressive HL → Lymphocyte depleted HL
  - ▶ HIV commonest association with → Mixed Cellularity HL
  - ▶ EBV Commonest association with → Mixed Cellularity HL
  - ▶ Commonest mode of Spread → LN to LN through lymphatics
  - ▶ Most specific marker for RS cells → PAX-5 > CD 30 > CD 15
  - ▶ Most common chemo regimen → ABVD
  - ▶ Commonest secondary tumor in HL → Acute Leukemias
  - ▶ Commonest Type of leukemia seen after HL Rx → AML
- Cisplatin can lead to → Hypomagnesemia.
- **Acute chest syndrome** is most common cause of death after childhood in sickle cell disease.
- To differentiate between true and Relative polycythemia → red cell mass is used.
- Burkitt lymphoma is most common cause of → Tumor lysis syndrome.
- Monitoring of standard heparin → aPtt
- Monitoring of LMWH → anti-factor Xa assay
- CML undergo Blast transformation (AML in 80% cases). Imatinib is first line treatment in CML.
- CLL undergoes Richter's transformation (High grade lymphoma).
- Lymphadenopathy is more marked in CLL than CML.
- In CLL peripheral smear shows smudge cells and immunophenotyping is investigation of choice.
- **Meigs's syndrome**: Ovarian fibroma associated with pleural effusion and ascites.

- Combination of petechial skin rash (superficial bleeding) (raised BT), slightly elevated aPTT, and slightly reduced factor VIII activity points towards → VWD. (IX shows decrease platelet aggregation with ristocetin). **Mx** → Traneximic acid and DDAVP for **minor bleeding** and Factor VIII concentrate for **major bleeding**.
- Bleeding in type 3 VWD patients responds to nothing apart from factor VIII concentrate.
- Beta 2 microglobulin shows poor prognosis in → Multiple myeloma.
- Anemia, absence of erythroblast, absence of reticulocytes, normal WBC count and platelets, high iron and ferritin and presence of antibodies to Erythropoietin, and presence of → Pure red cell aplasia. Treatment is → Discontinue EPO and repeated Blood transfusion.
- **THYMOMA**: Present in red cell aplasia, dermatomyositis and MG.
- Treatment of Antiphospholipid antibody syndrome in pregnancy → aspirin and LMWH.
- Causes of Extravascular hemolysis (WAHH) → warm autoimmune hemolytic anemia, hemoglobinopathies (sickle and thalassemia), hereditary spherocytosis and hemolytic disease of newborn.
- Warm autoimmune hemolytic anemia → IgG. (SLE, CLL, methyldopa) **Rx** → steroids, immunosuppressants and splenectomy.
- Cold autoimmune hemolytic anemia → IgM. (Infectious mononucleosis (EBV), Mycoplasma, **Rx** → Little response to steroids.
- **Features of intravascular hemolysis**: Hemoglobinuria, Low heptoglobin, hemosiderinuria, high LDH.
- Direct coombs test is diagnostic for → Hemolytic anemia.
- 60 year male patient presented with lethargy, fatigue, massive splenomegaly, weight loss, Blood film shows high WBC count, high platelets, Dry tap on bone marrow aspiration, JAK2 mutation and portal hypertension → Myelofibrosis.
- History of treatment for high grade lymphoma / leukemia now has high potassium, high phosphate, high uric acid low calcium and acute renal failure → Tumor lysis syndrome.
- **Prevention of tumor lysis syndrome**: **LOW risk**: IV fluids and Allopurinol, **HIGH risk**: IV fluids plus rasburicase.
- Abdominal pain, peripheral neuropathy, wrist drop, constipation, blue lines on Gums, Peripheral smear shows basophilic stippling, high urine level of Delta aminolevulinic acid and coproporphyrin → lead poisoning (serum lead level greater than 10).
- Treatment of chronic lead poisoning is → DMSA and Acute lead poisoning is → EDTA and Dimercaprol.
- Splenectomy in Hereditary spherocytosis is better avoided till 6 years to reduce the risk of post splenectomy sepsis.
- Splenectomy give better results in which of the following disease → hereditary spherocytosis.
- **Treatment of ITP**: platelet count more than 30k and no bleeding → Observe. platelets less than 30k and minor bleeding → oral prednisolone. Severe bleeding and platelets count is less than 10k → IVIG. Platelet count less than 30k after 3 months of steroid treatment → splenectomy. If splenectomy is ineffective then rituximab, Eltrombopag, cyclophosphamide and azathioprine.



- TTP plus autoimmune hemolytic anemia is → Evan's syndrome.
- Avascular necrosis of hip plus hand and foot syndrome and dactylitis → thrombotic crisis.
- In sickle cell disease sudden fall in HB without appropriate increase in reticulocytes → infection by parvovirus.
- Osteomyelitis in sickle cell disease is caused by → salmonella.
- 20 year old patient presented with DIC, low platelet counts, Auer rods and positive and there is 15 : 17 translocation → APL M3. Rx is ATRA. (vitamin A)
- 30 year old patient present with bonemarrow failure, gum infiltration, organomegaly, auer rods positive and sudan black positive → AML.
- 50 year old patient presented with anemia, massive splenomegaly, low ALP, left shift of leukocytosis high platelets and high basophils, Philadelphia chromosome → CML.
- Philadelphia chromosome has good prognosis in CML and poor prognosis in ALL.
- Factor V Leiden mutation → activated protein C resistance.
- Cyclophosphamide → (Acrolyn metabolite of Cyclophosphamide) hemorrhagic cystitis → prevention Mesna and hydration.
- First line treatment for TTP is → plasma exchange.
- Transformation seen in PRV is → Myelofibrosis and AML.
- Chemotherapy induced vomiting → ondansatron → 5HT3 antagonist.
- Trastuzumab is → Cardiotoxic.
- Acute myeloid leukemia is associated with → gingival hyperplasia.
- Sjogren syndrome → hypergammaglobulinemia and low C4 there is increased risk of Lymphoid malignancy.
- CLL → hypogammaglobulinemia and increase risk of infection.
- Burkitt lymphoma is associated with C-myc gene translocation.
- Treatment of CLL → FCR (Fludarabine, cyclophosphamide and rituximab).
- Polycythemia rubra vera is associated with → Low ESR.
- Heparin induced thrombocytopenia is **prothrombotic** condition, usually develop after 5 to 10 days of treatment. there is greater than 50 percent reduction in platelets thrombosis and skin allergy. Alternative anticoagulants are → Lepirudin and Danaparoid.

#### HIT suspected

When platelet Count is reduced by 50% from 5 days to 15 days of heparin users

Diagnosis established by anti PF4 antibodies

Diagnosis confirmed By serotonin release assay.

#### Management

Stop Heparin

Do doppler (thrombosis)

Start lepirudin Argatroban etc Continue this when Count is 1 lakh. Then introduce warfarin

Label patient as HIT and Heparin in every form is contraindicated For 100 days. If needed

LMWH can be given For short intervals after 100 days

- **Waldenstrom macroglobulinemia** : Seen in older man. IgM paraproteinemia (monoclonal). Associated with cryoglobulinemia, hyperviscosity symptoms, organomegaly

- , raynauds, weight loss and lethargy. BONE pain is uncommon symptom as compared to multiple myeloma.
- **Hairy cell leukemia** : TRAP positive and **Dry Tap**. interferon alpha may be used as treatment modality in treatment.
  - Anthracycline plus trastuzumab → **cardiotoxicity**.
  - **LAP is low in** → CML, pernicious anemia, PNH, infectious mononucleosis.
  - **LAP is High in** → Leukamoid reaction, Myelofibrosis, PRV, infections, steroids, cushing syndrome and pregnancy.

#### Clotting pearls

- Heparin resistance seen in \_\_\_\_ AT3 deficiency.
- Patient was Started on Warfarin and developed Tissue necrosis \_\_\_\_ protein C deficiency
- Most common cause of thrombosis is smoking
- Most common Inherited cause of thrombosis is Factor V laden mutation (protein C resistant)
- Most common Acquired cause of thrombosis is \_\_\_\_APLS.
- Most common inherited bleeding disorder is → VWD.
- In pregnancy there is Decrease in Level of AT3 and protein S and clotting factor XI.
- In nephrotic syndrome there is heparin resistance as there is leakage of AT3 in urine.
- Beta 2 microglobulin and serum albumin are important prognostic markers of → Multiple myeloma.
- Lacunar cells are present in nodular sclerosing type of Hodgkin lymphoma.
- Polycythemia rubra vera transforms in to → AML and myelofibrosis.
- AML is most common post chemotherapy.
- How to differentiate between Absolute and Relative Polycythemia → **RBC-MASS**.
- How to differentiate between primary and secondary polycythemia → Serum erythropoietin level.
- Hemophilia-A is factor VIII deficiency, Hemophilia B is factor IX deficiency and hemophilia C is factor XI deficiency. Parahemophilia is Factor V deficiency.
- Most common presentation of agranulocytosis is → Sore throat.
- Vitamin B12 deficiency → Increased homocysteine and increased methylmalonic acid and neurologic signs.
- Folic acid deficiency → Normal Methylmalonic acid and increase Homocystiene with no Neurologic signs.
- Most common tumor of anterior mediastinum is → Thymoma.
- Most common tumor of posterior mediastinum is → Neurogenic tumor.
- Most common presenting symptom in patient with myelofibrosis is → Lethargy.
- Dry tap is present in Myelofibrosis and Hairy cell Leukemia.
- Cold autoimmune hemolytic anemia → intravascular hemolysis, warm autoimmune hemolytic anemia extravascular hemolysis.
- Permanent disability after hemolytic reaction is → kernicterus.



- Retic response to Hematinics therapy is seen on 3<sup>rd</sup> day and maximum response is seen on 7<sup>th</sup> day.
- AOCD there is high ferritin and low serum iron, low TIBC and low Transferrin saturation.
- In iron deficiency anemia there is HIGH TIBC and low serum iron and low transferrin saturation.
- In hemochromatosis there is high ferritin, high transferrin saturation, and serum iron with low TIBC.
- A patient with antithrombin III deficiency has resistance to → Heparin.
- Most diagnostic test in case of ITP is → bone marrow biopsy it shows megakaryocytes.
- In PRV there is raised HCT, raised RBC mass and LOW MCV (due to Excess red blood cell production), low ESR and High LAP.
- HIV antibodies are typically negative in HIV seroconversion and HIV PCR and p24 antigen are used to diagnose HIV seroconversion.

**NOTE: HIV seroconversion:** It presents like infectious mononucleosis after 2 to 12 weeks of primary infection and presents like maculopapular rash flu like symptoms and sore throat and generalized lymphadenopathy. MOST of the time travel abroad history is given.

- HBH is type of alpha thalassemia in which there are → 4 Beta chains and in Hb Bart (type of alpha thalassemia) there are 4 Gamma chains.

#### **B12 REPLACEMENT SEQUENCE OF EVENTS**

- ① Immediate improvement in patient well being
- ② Bone marrow response in 24 to 48 hrs
- ③ Retic response on 3<sup>rd</sup> day, Peaks at 7<sup>th</sup> day
- ④ Hb increases by 1gm per week
- ⑤ Neurologic response takes months or may not improve

**Note:** Always keep an eye on potassium as hypokalemia is dangerous complication of B12 replacement.

- Red beefy tongue is seen in → Vitamin B12 deficiency.
- Atrophic glossitis is seen in → Iron deficiency anemia.
- Magenta tongue is seen in → vitamin B2 deficiency (riboflavin).
- G6pd deficiency
  - Best initial test → is Hienz bodies and bite cells on peripheral smear.
  - Most accurate test → G6pd level 1 to 2 months after episode of hemolysis.
- Filgrastim is a granulocyte-colony stimulating factor used to treat neutropenia
- Rasburicase - a recombinant version of urate oxidase, an enzyme that metabolizes uric acid to allantoin
- CLL is caused by a monoclonal proliferation of B-cell lymphocytes
- Cisplatin may cause peripheral neuropathy
- Venous thromboembolism and length of warfarin treatment: if Provoked (e.g. recent surgery) → 3 months and if unprovoked → 6 months
- CA 15-3 is a tumour marker in breast cancers

- Ann Arbor staging system for Hodgkin's lymphoma
- Low haptoglobin levels are found in haemolytic anaemias
- Malaria prophylaxis (e.g. primaquine) can trigger haemolytic anaemia in those with G6PD deficiency
- Warm autoimmune haemolytic anaemia involves IgG-mediated haemolysis
- **How to differentiate between HUS or TTP?** → Neuro signs point towards TTP
- Pancreatic cancer - CA 19-9
- Hereditary angioedema - C1-INH deficiency
- Factor V Leiden mutation results in activated protein C resistance
- For urticarial blood transfusion reactions without anaphylaxis, an antihistamine should be given and the transfusion temporarily stopped
- Exposure to aniline dyes is a risk factor for transitional cell carcinoma.
- An MRI whole spine should be performed in a patient suspected of spinal metastases
- The sulfamethoxazole in co-trimoxazole causes haemolysis in G6PD, not the trimethoprim
- TRALI is differentiated from TACO by the presence of hypotension in TRALI vs hypertension in TACO (transfusion associated circulatory overload).
- Prostate cancer is the most common primary tumour that metastasises to the bone
- Carcinoembryonic Antigen (CEA) is a tumour marker in colorectal cancer and has a role in monitoring disease activity
- Chronic myeloid leukaemia - imatinib = tyrosine kinase inhibitor
- Acute promyelocytic leukaemia - t(15;17)
- 'CRAB' features of multiple myeloma = hyperCalcaemia, Renal failure, Anaemia (and thrombocytopenia) and Bone fractures/lytic lesions
- Anaphylaxis - serum tryptase levels rise following an acute episode
- Hereditary angioedema is caused by deficiency of C1 esterase inhibitor
- Desmopressin - induces release of von Willebrand's factor from endothelial cells
- AIP - porphobilinogen deAminase;
- PCT - uroporphyrinogen deCarboxylase
- Hodgkin's lymphoma - best prognosis = lymphocyte predominant
- Aplastic crises in sickle cell disease are associated with a sudden drop in haemoglobin
- Trimethoprim may cause pancytopenia
- In acute intermittent porphyria, urinary porphobilinogen is typically raised
- Cisplatin is associated with hypomagnesaemia
- Extravascular haemolysis - hereditary spherocytosis
- Patients with Waldenstrom's macroglobulinaemia often present with issues secondary to hyperviscosity
- TTP is caused by the failure to cleave vWF normally
- Exposure to aflatoxin is a risk factor for hepatocellular carcinoma
- In patients with factor V Leiden, activated factor V is inactivated 10 times more slowly by activated protein C than normal



- Burkitt's lymphoma - t(8:14)
- ITP should be considered in the presence of symptoms that suggest isolated thrombocytopenia e.g. epistaxis, menorrhagia
- Helicobacter pylori infection can lead to gastric lymphoma (MALT)
- Acute myeloid leukaemia - poor prognosis: deletion of chromosome 5 or 7
- Howell-Jolly bodies and siderocytes are typical blood film findings of hyposplenism
- Myelofibrosis is associated with 'tear drop' poikilocytes on blood film
- EBV infection is implicated in the pathogenesis of Burkitt's lymphoma
- In chronic myeloid leukaemia there is an increase in granulocytes at different stages of maturation +/- thrombocytosis
- CLL - immunophenotyping is investigation of choice
- HbA2 is raised in patients with beta thalassaemia major
- A low fibrinogen level is the major criteria determining the use of cryoprecipitate in bleeding
- Howell-Jolly bodies are present in hereditary spherocytosis post-splenectomy
- Leukemoid reaction has a high leucocyte alkaline phosphatase score
- Platelet transfusions have the highest risk of bacterial contamination compared to other types of blood products
- G6PD deficiency: sulph- drugs: sulphonamides, sulphasalazine and sulfonyleureas can trigger haemolysis
- Vincristine - peripheral neuropathy
- The universal donor of fresh frozen plasma is AB RhD negative blood
- Follicular lymphoma is characterised by a t(14:18) translocation
- SVC obstruction can cause visual disturbances such as blurred vision
- Doxorubicin may cause cardiomyopathy
- Methaemoglobinaemia = oxidation of Fe<sup>2+</sup> in haemoglobin to Fe<sup>3+</sup>
- Stage III of the Ann-Arbor clinical staging of lymphomas involve lymph nodes on both sides of the diaphragm
- Exposure to asbestos is a risk factor for bronchial carcinoma as well as mesothelioma
- Methotrexate - inhibits dihydrofolate reductase and thymidylate synthesis
- Factor V Leiden is the commonest inherited thrombophilia
- Li-Fraumeni syndrome is caused by germline mutations to p53 tumour suppressor gene
- Irradiated blood products are used as they are depleted in T-lymphocytes
- TTP - plasma exchange is first-line
- ITP - give oral prednisolone
- Polycythaemia rubra vera - JAK2 mutation
- TTP presents with a pentad of fever, neuro signs, thrombocytopenia, haemolytic anaemia and renal failure
- Cyclophosphamide may cause haemorrhagic cystitis
- CLL - treatment: Fludarabine, Cyclophosphamide and Rituximab (FCR) Cyclophosphamide
- Haemorrhagic cystitis - prevent with mesna

- The t(14;18) translocation causes increased BCL-2 transcription and causes follicular lymphoma
- IgM paraproteinaemia - Waldenstrom's macroglobulinaemia
- Hereditary angioedema (HAE) is pathophysiologically separate from anaphylaxis and is treated differently. Therapeutic options are: intravenous infusion of human C1-esterase inhibitor or subcutaneous injection of the bradykinin receptor inhibitor icatibant
- Cancer patients with VTE - 6 months of LMWH
- Cisplatin - causes cross-linking in DNA
- Prothrombin complex concentrate is used for the emergency reversal of anticoagulation in patients with severe bleeding or a head injury
- Combined B- and T-cell disorders: SCID WAS ataxic (SCID, Wiskott-Aldrich syndrome, ataxic telangiectasia)
- Bombesin is a tumour marker in small cell lung carcinomas
- Myelofibrosis - most common presenting symptom - lethargy
- In anaphylaxis, biphasic reactions can occur in up to 20% of patients
- Acute myeloid leukaemia - good prognosis: t(15;17)
- Intravascular haemolysis - paroxysmal nocturnal haemoglobinuria
- Waldenstrom's macroglobulinaemia - Organomegaly with no bone lesions
- Multiple myeloma - Bone lesions with no organomegaly
- CML - Philadelphia chromosome - t(9;22)
- Polycythaemia rubra vera - around 5-15% progress to myelofibrosis or AML
- In acute intermittent porphyria, the urine classically turns deep red on standing
- DIC is associated with schistocytes due to microangiopathic haemolytic anaemia
- Wiskott-Aldrich syndrome → Recurrent bacterial infections (e.g. Chest), eczema, thrombocytopenia
- Acute intermittent porphyria typically presents with abdominal, neurological and psychiatric symptoms
- CKD is the most common cause of antithrombin III deficiency
- Raynaud's - Type I cryoglobulinaemia
- Burkitt's lymphoma is a common cause of tumour lysis syndrome
- Activated protein C resistance (Factor V Leiden) is the most common inherited thrombophilia
- SVC obstruction - dyspnoea is the most common symptom
- Vitamin B12 is actively absorbed in the terminal ileum
- Sickle cell patients should be started on long term hydroxycarbamide to reduce the incidence of complications and acute crises
- Philadelphia translocation, t(9;22) - good prognosis in CML, poor prognosis in AML + ALL
- Acquired inhibition of the protein ADAMTS13 which cleaves vWF multimers is the most common cause of TTP
- Antiphospholipid syndrome in pregnancy treatment is: aspirin + LMWH
- Ovarian cancer - CA 125
- Normal pO<sub>2</sub> but decreased oxygen saturation is characteristic of methaemoglobinaemia



- Taxanes such as docetaxel - prevents microtubule depolymerisation & disassembly, decreasing free tubulin
- Leucocyte alkaline phosphatase is low in CML but raised in myelofibrosis
- SLE is a risk factor for warm autoimmune haemolytic anaemia
- Differentiating chronic myeloid leukaemia from leukaemoid reactions: leukocyte alkaline phosphatase score is low in CML, high in leukaemoid reaction
- Hodgkin's lymphoma - most common type = nodular sclerosing
- Disproportionate microcytic anaemia - think beta-thalassaemia trait
- Polycythaemia rubra vera is associated with a low ESR
- Lead poisoning is often occupational and comprises gastrointestinal and neuropsychiatric symptoms and anaemia due to interruption to the haem biosynthetic pathway.
- Burkitt's lymphoma - c-myc gene translocation
- Hepatitis C is associated with mixed (type II) cryoglobulinaemia
- Hydroxyurea increases the HbF levels and is used in the prophylactic management of sickle cell anemia to prevent painful episodes
- Cisplatin may cause ototoxicity

### Multiple choice Questions

- **A 33 year old male with history of recurrent nose bleeds , iron deficiency anemia and SOB is found to have pulmonary AV malformation .what is underlying cause ?**
  - a. Hemophillia A
  - b. HHT (hereditary Hemorrhagic telangiectasia or Osler weber rendu syndrome)
  - c. mantle cell lymphoma
  - d. Wegners granulomatosis

**ANS B**

- **A blood test reveals howell jolly bodies , target cells and occasional pappenheimer cells .what is the most likely diagnosis ?**
  - a. Iron deficiency anemia .
  - b. Lead poisoning
  - c. Thalasemia
  - d. Post splenectomy

**ANS: D**

- **A patient has history of recurrent thromboembolic events develops a deep venous thrombosis despite full anticoagulation with heparin . which of the following causes of thrombophilia is associated with resistance to heparin ?**
  - a. Protein C deficiency
  - b. Protein S deficiency
  - c. Antithrombin III deficiency
  - d. Factor V mutation

ANS: C

- Which of the following typically presents with megaloblastic anemia?

- a. Blind loop syndrome
- b. Blood loss through faeces
- c. Lead poisoning
- d. Thalassemia

ANS: A

- Characteristic feature of pure red cell aplasia is?

- a. Normocytic normochromic anemia
- b. Hypocellular bone marrow
- c. Increase iron turn over
- d. Less than 5% blast cells
- e. Retic greater than 2%

ANS: A

- Coombs negative hemolytic anemia occurs in?

- a. Methyldopa
- b. SLE
- c. CLL
- d. PNH

ANS: D

- Patient developed rash after ampicillin. He had rubbery cervical lymph nodes plus fever for 2 days, what is your diagnosis?

- a. TB
- b. Infectious mononucleosis
- c. Burkitt Lymphoma
- d. Leukemia

ANS: B

- Which of the following is least recognized in TTP?

- a. Fever
- b. MAHA
- c. Renal failure
- d. Thrombocytopenia
- e. Lividoreticularis

ANS: E

- 67 year old male presented with myelofibrosis, what is the most common presenting symptom of myelofibrosis?

- a. Lethargy
- b. Anorexia
- c. Night sweats
- d. Easy bruising
- e. Splenomegaly

ANS: A



➤ Which of the following is most associated with thymomas ?

- a. Myelodysplasia
- b. Thrombocytopenia
- c. AML
- d. ALL
- e. Red cell aplasia

ANS: E

➤ A patient presents to you with brown coloured urine for last one year especially in the morning , what is the most likely cause ?

- a. G6pd deficiency
- b. PNH
- c. Nephritic syndrome
- d. Carcinoma of bladder

ANS: B

➤ CBC of patient who is diagnosed case of ITP shows platelet count of 45000, but asymptomatic , what will you do next?

- a. Observe
- b. Give steroids
- c. Do splenectomy
- d. Platelets transfusion

ANS: A

➤ A young patient with the history of multiple transfusions , splenomegaly and hepatomegaly .what will be the investigation of choice ?

- a. CBC
- b. Hb electrophoresis
- c. TIBC
- d. Serum ferritin

ANS: B

➤ How will you consider severity of DIC ?

- a. Decrease platelet count
- b. Decrease fibrinogen level
- c. Increase apt
- d. Increase FDPs
- e. Increase PT

ANS: B

➤ 30 year old man with Hodgkin lymphoma was given chemotherapy , he is now restless with complain of nausea aches and pains .His labs shows , NA of 140 , potassium of 6 , urea of 200 and creat of 4 , calcium of 8.5 uric acid of 10. What prophylactic treatment would have prevented this condition ?

- a. Allopurinol
- b. Rehydration
- c.  $\text{NaHCO}_3$

- d. Calcium gluconate
- e. Allopuranol and rehydration

**ANS: E**

➤ **Risk of breast cancer increases in ?**

- a. Multiparity
- b. Nulliparity
- c. Long term nursing
- d. Late first pregnancy
- e. History of breast cancer in aunt

**ANS: E**

➤ **A 60 year old man during winter season presented to you with lividoreticularis and purple finger tips. Other symptoms include arthralgia and weakness. Labs shows renal impairment. What will be your diagnosis ?**

- a. Cold agglutination disease
- b. HSP
- c. APLS
- d. Cryoglobulinemia
- e. Anticardiolipin syndrome

**ANS: D**

➤ **All drugs can cause hemolytic anemia except ?**

- a. Penicillin
- b. Quinidine
- c. Methyldopa
- d. Aspirin

**ANS: D**

➤ **Which of the following holds best outcome following splenectomy ?**

- a. Thalassemia
- b. ITP
- c. Hereditary spherocytosis
- d. HUS

**ANS: C**

➤ **Which of the following is least likely to cause warm autoimmune hemolytic anemia ?**

- a. Mycoplasma infection
- b. Methyldopa
- c. CLL
- d. Lymphoma
- e. SLE

**ANS: A**



➤ A 4 year old girl presented with sickle cell anemia presents with low HB and decrease retic count. Parvovirus infection is suspected. What is the cause of Low HB?

- a. Liver disease
- b. Hemolytic crisis
- c. Sequestration crisis
- d. Aplastic crisis
- e. Thrombotic crisis

ANS: D

➤ A 34 year old man known case of VWD asks for advise regarding tooth extraction, which of the following is most important management to reduce the risk of bleeding?

- a. Mafenimic acid
- b. Vitamin K
- c. Desmopressin
- d. Factor VIII concentrate

ANS: C

➤ Patient presented with pancytopenia, high MCV and hepatosplenomegaly, what is the most likely diagnosis?

- a. Megaloblastic anemia
- b. Myelodysplasia

ANS: B

# NEUROLOGICAL SYSTEM

- PONTINE lesion or 6<sup>th</sup> cranial nerve palsy leads to → **Horizontal gaze palsy**.
- PROGRESSIVE SUPRANUCLEAR PALSY leads to → **Vertical gaze palsy** (Downward gaze is more affected).
- Parinaud syndrome (Dorsal midbrain syndrome) Lesion of superior colliculus → **Vertical gaze palsy** (upward gaze is more effected).
- d).
- Locked in syndrome → there is only **preservation of upward gaze** and upward eye lid movement.
- Upbeat nystigmus is seen in → Lesion of superior colliculus in the midbrain also cerebellar vermis lesion.
- Down beat nystigmus is seen in → lesions of framen magnum (Arnold chiari malformations).
- **DIPOLOPIA**
  - Isolated Sixth cranial nerve palsy causes Horizontal Diplopia e.g eg when moving eye left or right or reversing the car.
  - Isolated fourth cranial nerve palsy causes vertical diplopia (weakness of downward eye movements) E.g coming downstairs or Reading news paper.
  - Third cranial nerve palsy leads to both horizontal and vertical diplopia
  - Note diplopia on coming down-stairs is called vertical diplopia is present both in 4th and 3rd Nerve palsy but 4th > 3rd.
  - All horizontal movements of eye are disturbed in leison of \_ pons (abducent nerve) \_ Horizontal diplopia.
  - All vertical movements of eye are disturbed in leison of \_ Midbrain (Oculomotor nerve)

## Magnesium :

- Normal magnesium level is → 0.75 to 1.25 mmol/ L
- Mild hypomagnesemia leads to hyper-parathyroidism and as a result **hypercalcemia** → Decrease nerve excitability.
- Severe hypomagnesemia leads to → **hypo-parathyroidism** and as a result hypocalcemia → Increase nerve excitability like tetany seizures, tachycardia, paresthesias and twitches.
- In hypermagnesemia hyporeflexia occurs above 2 mmol/ L Or 4 mEq/L which is usually the first sign of magnesium toxicity and areflexia occurs at 4 to 5 mmol/L, respiratory paralysis and cardiac arrest occurs at > 5 mmol/L.

Serum magnesium levels	Symptoms
2-3 mmol/l	Nausea, vomiting, facial flushing, headache, hyporeflexia, lethargy
3-5 mmol/l	Drowsiness, hypocalcemia, loss of deep tendon reflexes, hypotension, bradycardia, changes in the ECG
> 5 mmol/l	Muscular/muscle paralysis, respiratory depression, complete heart blockage, coma, cardiac arrest



- **Remember:** If in paper mild or severe hypomagnesaemia is not given take it as severe hypomagnesaemia.
- **Hypermagnesaemia** leads to decrease nerve excitability by decrease in acetylcholine release and decrease the sensitivity of motor end plate to acetylcholine leading to bradycardia (prolong PR interval), diminished tendon reflexes and respiratory depression.
- **Treatment of hypermagnesaemia:** Exogenous sources of magnesium should be discontinued. Calcium antagonizes  $Mg^{2+}$  and may be given intravenously as calcium chloride, 500 mg or more at a rate of 100 mg (4.1 mmol) per minute. Hemodialysis or peritoneal dialysis may be necessary to remove magnesium, particularly with severe kidney disease.
- **Treatment of hypomagnesaemia:** Magnesium oxide, 250–500 mg orally once or twice daily, is useful for treating chronic hypomagnesaemia. Symptomatic hypomagnesaemia requires intravenous magnesium sulfate 1–2 g over 5–60 minutes mixed in either dextrose 5% or 0.9% normal saline.
- **Hypercalcemia and hypokalemia** → Systolic heart failure.
- **Hypocalcemia and hyperkalemia** → Diastolic heart failure.

➤ **Herpes simplex Encephalitis:** Typically involves temporal and inferior frontal lobe and manifest clinically in the form of psychiatric symptoms, fever, head ache, seizures vomiting, Focal features like aphasia CSF and and MR brain is used for diagnosis. EEG shows lateralized periodic discharges at 2 Hz.

➤ **Heteronymous hemianopsia:** Lesion involves optic chiasma. **Binasal Hemianopsia:** Lateral sides of optic chiasma affected by any lesion like ICA displacement. **Bitemporal hemianopsia:** it results from lesion of medial side of optic chiasma.

**MCQ:** A 47-year-old man, otherwise fit and healthy, complained of a one week history of not being able to see objects placed at the centre of his visual fields, even with both eyes opened. An objective visual fields test revealed an incongruous binasal hemianopia. What is the most likely diagnosis?

- Carotid-cavernous sinus fistula
- Craniopharyngioma
- Bilateral carotid artery dissection
- Bilateral internal carotid artery displacement
- Pituitary tumour

ANS: D

➤ **Homonymous hemianopsia:** Starts once the lesion is after optic chiasma like optic tract, optic radiation and occipital cortex. **Types include:** **Quadrantanopsia:** (PITS) parietal lobe lesion leads to inferior field defects and Temporal lobe lesion leads to superior field defect. **Congruous hemianopsia:** Lesion of optic radiation and occipital cortex. **Macular sparing** in case of occipital lobe. **Incongruous hemianopsia:** Lesion of optic tract.

**MCQ:** With regard to the 75 year old man who experienced a sudden blurring of vision in both eyes and whose visual field tests show a right homonymous hemianopia, what is the most likely diagnosis?

- Multiple sclerosis
- A space occupying lesion
- A cerebrovascular event
- An arteriovenous malformation

ANS: C

MCQ: A 49-year-old man presents to the Emergency Department complaining of visual disturbance. Examination reveals a right incongruous homonymous hemianopia. Where is the lesion most likely to be?

- a. Left optic tract
- b. Left optic radiation
- c. Right optic tract
- d. Right optic radiation
- e. Optic chiasm

ANS: A.

MCQ: An 80 year old man with a history of stroke presents with a lower homonymous quadrantanopia affecting the temporal side of the right visual field and the nasal side of the left visual field. Where is the lesion?

- a. Optic chiasm
- b. Right parietal lobe
- c. Left parietal lobe
- d. Optic nerve
- e. Left Occipital lobe

ANS: C.

MCQ: A 18-year-old male presents with blurring of vision in his right eye. Examination reveals visual acuity in the right eye of 6/18 and in the left eye 6/6. Visual fields to confrontation reveal a right temporal visual field defect and partial loss of superior part of the temporal field of the left eye. Where is the most likely position of the lesion responsible for this defect?

- a. Occipital lobe
- b. Optic chiasm
- c. Optic nerve
- d. Optic tract
- e. Temporal lobe

ANS: B.

➤ **Pituitary tumor:** Leads to compression of inferior chiasma leading to upper quadrant defect and **craniopharyngioma** leads to superior chiasmal compression leading to inferior quadrant defect.

➤ **Parkinson disease:** Delay the treatment until the onset of disability symptoms **Levodopa** is introduced first in elderly.

**Ergot** derived dopamine agonist like bromocriptine, cabergoline and pergolide are associated with pulmonary and retroperitoneal fibrosis and cardiac fibrosis.

**Other side effects** of dopamine receptor agonists are impulse control disorders, excessive day time somnolence, hallucinations and postural hypotension.

**Levodopa:** Combined with Decarboxylase inhibitor e.g. Carbidopa and benserizide. It reduces effectiveness in 2 years period.

**Main side effects** are Dry mouth, postural hypotension, psychosis, anorexia, drowsiness and ON/OFF effect.

**Management of ON/OFF effect:** Give small frequent doses, increase in dose, introduction of controlled released tablets. Additionally, you can add ropinirole 0.25mg TDS increase on weakly basis. Sinament CR is available in the market. Taking sinament with carbohydrates rich diet makes it work rapidly and if taken with proteins absorption reduces. If a patient is in off phenomenon and he has something urgent to do ask him to take sinament with Pepsi.



**Note:** There is no use of levodopa in → Neuroleptic induced parkinsonism and in such case give antimuscarinics.

- Hypertension should not be corrected in initial phase of ischemic CVA unless there are complications like hypertensive encephalopathy.
- Thrombolysis can be considered in ischemic CVA in first 4.5 hours.

**Protocol for inclusion and exclusion criteria for tPA:**

**Their inclusion are:**

- 1) Age over 18
- 2) Clinical diagnosis of acute ischaemic stroke
- 3) Known time of onset
- 4) CT scan consistent with diagnosis, and
- 5) Treatment can be given within 180 minutes (though some physicians treat after this period).

**Their exclusion criteria included:**

- 1) Intracranial haemorrhage on CT scan
  - 2) Symptoms minor or improving
  - 3) Active bleeding at any site
  - 4) Gastrointestinal bleed in the last 21 days
  - 5) Major surgery in last 14 days
  - 6) History of intracranial bleed
  - 7) Serious head injury in last 3 months
  - 8) Pregnancy, or
  - 9) Active pancreatitis
  - 10) Uncontrolled hypertension
- For secondary prevention of stroke **Clopidogril** is nowadays recommended.
  - **Carotid artery endarterectomy** can be considered if a person has experienced stroke or TIA and stroke in carotid artery territory and is not severely disabled. It should be considered if carotid artery stenosis is greater than 70%.
  - Cataplexy is sudden and transient loss of muscular tone caused by strong emotions like laughter and being frightened. around 2/3<sup>rd</sup> of the patients with narcolepsy has cataplexy.
  - **Carpel tunnel syndrome:** pins and needle sensations in Thumb middle and index finger. patient shakes hand to obtain relief and drift the hands out side the bed. there is also weakness of thumb abduction and wasting of thenar eminence.
- Tenal sign:** Tapping of hand causes paresthesias and **Phalen sign:** Flexion of wrist causes symptoms. **Causes of carpal tunnel syndrome** are: pregnancy, lunate fracture, amyloidosis, hypothyroidism, RA, CCF leading to edema. **Electrophysiology shows:** motor plus sensory involvement and prolongation of the action potential.
- IV magnesium sulphate 4gm iv over 10 minutes followed by iv infusion of 1 gm per hour is given to **prevent** fits in severe preeclampsia and **treat** fits in Eclampsia treatment should be continued for 24 hours of the last seizure.

- **Myasthenia gravis:** Progressive muscle fatigue ability towards the end of the day. Extraocular muscle are most commonly involved (DIPLOPIA). There is proximal muscle weakness, Ptosis and dysphagia. Thymoma is present in 15% percent of the cases and Thymic hyperplasia is present in 50 to 70% of the cases. Myasthenis exacerbates with muscle movements so physiotherapy will not help in myasthenia gravis and will exacerbate it.

**Most sensitivetest** for Myasthenia gravis is Single fiber EMG.

**Most specific test for MG is**→ Acetylcholine receptor antibodies

**Best screening test** is Acetylcholine receptor antibodies.

**Best diagnostic test for MG:** Decremental response on EMG.

**Management:**

Myasthenic crisis: IV immunoglobulins and plasmaphoresis.

**Long term management:**

Long acting anti-cholinestrase pyridostigmine and prednisolone initially and thymectomy

**Indications for thymectomy :**

- a. Thymoma
- b. Antibody positive patient who is
  - ✦ Less than 45 years of age
  - ✦ Symptoms not confined to extraocular muscles and
  - ✦ And the disease has been established for more than 7 years.

**Note:** Patients who are seronegative or have anti—MuSK Antibodies positive are less likely to have thymic pathology and are less likely to get benefit from thymectomy.

## I 25.106 Immunological treatment of myasthenia

**Acute treatments****Intravenous immunoglobulin**

- Reduces production of antibodies and rapidly reduces weakness

**Plasma exchange**

- Removing antibody from the blood may produce marked improvement; this is usually brief, so is normally reserved for myasthenic crisis or for pre-operative preparation

**Long-term treatments****Corticosteroid treatment**

- Improvement is commonly preceded by marked exacerbation of myasthenic symptoms, so treatment should be initiated in hospital
- Usually necessary to continue treatment for months or years, risking adverse effects

**Pharmacological immunosuppression treatment**

- Azathioprine 2.5 mg/kg daily reduces the necessary dosage of steroids and may allow their withdrawal. Effect on clinical features may be delayed for months
- Mycophenolate: less commonly used

**Thymectomy**

- Should be considered in any antibody-positive patient under 45 yrs with symptoms not confined to extraocular muscles, unless the disease has been established for more than 7 yrs
- May be required for thymoma



➤ Difference between myasthenia gravis and lambert eaten syndrome:

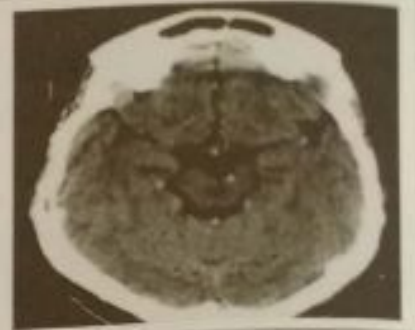
LES	MG
Auto Ab against presynaptic Ca channel blocker [↓ ACh release]	Autoantibody against postsynaptic ACh receptor
Deep tendon reflex → ↓ or absent	DTR → normal or brisk
Autonomic nervous system alteration "xerostomia and impotence"	No alteration of ANS
Start at extremity and move up <ul style="list-style-type: none"> <li>slowly progressive proximal muscle weakness, particularly involving the legs; this feature is present in almost all patients.</li> <li>Ocular symptoms, especially ptosis and diplopia, may occur with LEMS but are rarely the presenting or dominant feature of the illness</li> </ul>	Start at the eyes, and move down to involve the face, neck and limb girdle <ul style="list-style-type: none"> <li>Proximal muscle weakness "asymmetrical in MG"</li> <li>facial weakness : grumping face when pt tries to smile</li> <li>difficult mastication, deglutition &amp; regurgitation</li> </ul>
<b>muscle weakness and reflexes that improve after exercise</b> (whereas this gets worse with MG) and do not have <b>fatigable eyelids</b> on upward gaze (common in MG)	There is fatigability ( <b>fatigable eyelids</b> on upward gaze)
Muscle strength show delayed maximum contraction	Muscle strength ↓ during ongoing exercise
Symptoms worse in the morning and decreases with exertion.	Symptoms worse at the end of the day and inc upon activity
25 % present CN involvement → mild ptosis and diplopia	70 % CN involvement → ptosis and diplopia
do not have significant respiratory muscle weakness	do have significant respiratory muscle weakness
Associated with small cell lung carcinoma	Associated with thymoma and thymic hyperplasia
Synaptic concentrations of acetylcholine is low	Synaptic concentrations of acetylcholine is normal
Single nerve stimulation (amplitude) is normal	Single nerve stimulation (amplitude) is reduced
Repetitive stimulation ↑ at 20 Hz stimulation	Repetitive stimulation ↓ at 3 Hz stimulation
Therapy : aminopyridines	Therapy : ACh esterase inhibitor

- **Subarachnoid hemorrhage:** Sudden onset of worst occipital headache. Worst headache of my life . **Thunder clap headache** 85% of the cases are due to **berry aneurysms** hence most common cause of SAH.

### Associations of berry aneurysms:

- Co-arcuation of aorta
- Ehlers Danlos syndrome
- APKD

- 1-Interhemispheric fissure
- 2-Suprasellar cistern
- 3-Sylvian fissure
- 4-Interpeduncular cistern
- 5-Ambient cistern
- 6-Quadrigeminal cistern



**CT brain** Will show diffuse subarachnoid hemorrhage in all basal cisterns, bilateral Sylvian fissure and Interhemispheric fissure. CT is negative in 5% of cases. LP is done after 12 hours to develop xanthochromia. If xanthochromia is negative and still there is high suspicion of SAH then do cerebral angiography (MRA).

**Complications of SAH:** Rebleeding, Obstructive hydrocephalus and vasospasm cerebral ischemia.

**Management:** Nimodipine 60 mg 4 hourly to prevent cerebral ischemia due to vasospasm and surgical intervention.

- **Guillain Barre syndrome:** Immune mediated demyelination of peripheral nerves triggered by infections like campylobacter, CMV and Mycoplasma. There is ascending paralysis with areflexia, **Autonomic dysfunction** (urinary retention) and very few sensory signs like paresthesias with no sensory loss. **Paupilledema:** it can occur due to less CSF absorption.

**CSF:** characteristically shows high albumin, low cells and normal glucose. **Albuminocytologic dissociation.**

**NCS studies:** They show normal amplitude with low conduction velocity.

**Miller fisher syndrome** is variant of GBS associated with descending paralysis, ophthalmoplegia and ataxia.

**Anti GQ1** antibodies are present in 95% of cases.

**Bakerstaff encephalitis:** It is like Miller fisher but associated with drowsiness and brisk reflexes.

**Management:** IVIG (0.5mg/kg for 5 days) and plasma exchange both are equally effective and FVC to monitor lung function.

**Prognosis:** 20% suffer permanent disability, 5% die.

### Poor prognostic features

- 1) Age > 40 years
- 2) Previous history of a diarrhoeal illness (specifically Campylobacter jejuni)
- 3) High anti-GM1 antibody titre
- 4) Poor upper extremity muscle strength
- 5) Need for ventilatory support
- 6) There is currently contradictory evidence as to whether a gradual or rapid onset of GBS is associated with a poor outcome.

### ➤ Epilepsy Choice of treatment

Sodium Valproate is 1st line in all types except in partial seizure in which carbamazepine is first choice.

Ethosuximide is also first line in absence seizure.

Lamotrigine is 2nd line in generalized tonic clonic, partial and myoclonic fits.

Carbamazepine is also second line in gen tonic clonic. Clonazepam is 2nd line in myoclonic along with lamotrigine.



Carbamazepine and phenytoin is contraindicated in myoclonic.

Carbamazepine can exacerbate absence seizure.

Lamotrigine is associated with least risk of congenital malformation in pregnancy and its dose needs to be increased in pregnancy.

Phenytoin valproate leads to cleft palate

Alproate leads to neural tube defects

**ABSENCE SEIZURE** (petit mal) Common at \_\_ 3 year to 10 year. Most common in female.

EEG findings 3Hz spike and wave pattern. Choice of Drug is \_\_ Ethsuximide.

- Neurologists start antiepileptics after 2<sup>nd</sup> episode of epileptic seizures.
- Indications for starting antiepileptics after first seizure .
  - The person has neurologic defect.
  - Brain imaging shows structural abnormality .
  - EEG shows unequivocal epileptic activity .
  - Patient or their family consider risk of having further seizure unacceptable.
- Iris hemartomas: They are seen in neurofibromatosis also called **Lish nodules** .
- Retinal hemartomas are seen in tuberous sclerosis .
- Parkinson plus syndrome like progressive supranuclear palsy shows poor response to → L-DOPA.
- **Benign essential tremers** :
 

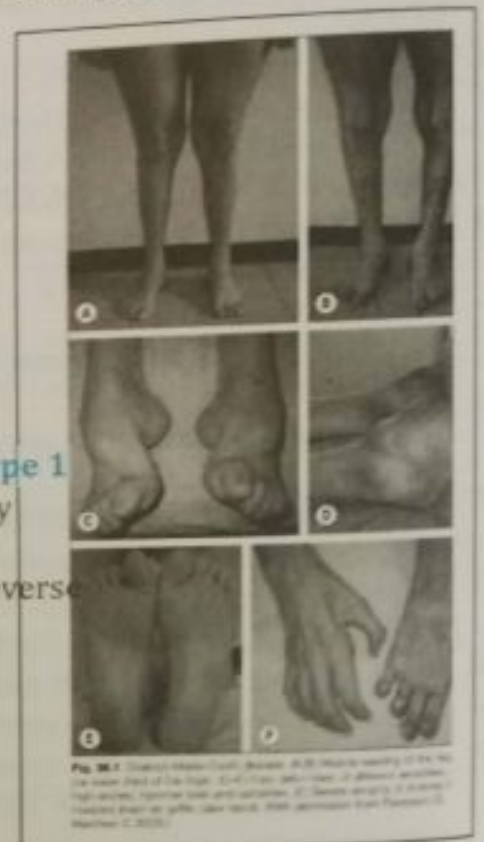
Autosomal dominant .Bilaterally symmetrical , increases by out stretched hands , Eases with Alcohol and beta bloickers intake. Most common cause of head tremers . Primidone is some time used as treatment when propranolol is contraindicated .
- **Papilledema** is least consistant with Normal pressure hydrocephalous ( dementoia , ataxia and urinary incontinence).
- **Vertigo**:
 

**Viral labrynthitis**: constant symptoms of shorter duration does not depend on position of head .

**Menieres disease**: Also associated with hearing loss and tinnitus and sensations of aural fullness.-

**Benign paroxysmal positional vertigo**: Common age of presentation is 55 years .Sudden onset associated with head movements .episeode lasts for 10 to 20 seconds.**Diagnosis** by dix-halpike manoeuvre and **Treatment**is Epleys manoeuvre.
- Painful 3<sup>rd</sup> nerve palsy → Posterior communicating aneurysm .
- Pupil spacing or partial 3<sup>rd</sup> nerve palsy →DM ,it recovers with in the period of three month .
- Ipsilateral 3rd CN palsy + contralateral hemiplegia →Weber syndrome
- Ipsilateral 3rd CN palsy + contralateral hemiataxia →Benedikt syndrome
- Ipsilateral 3rd CN palsy + hemiparesis + Contralateral homonymous hemianopsia →Uncal herniation
- Ipsilateral 3rd CN palsy + proptosis and lid retraction --> Grave's disease
- Ipsilateral 3rd CN palsy + periorbital swelling, proptosis, and conjuctival injection →Cavernous sinus thrombosis.
- **First time** seizures patient must be fit free for **6 months** to be able to drive .
- Patient with established epilepsy he must be fit free for **12 month** to be able to drive.
- Neuroimaging in dementia is done to exclude reversible causes like normal pressure hydrocephalous and subdural hematoma.
- A minimental score of 24 out of 30 is diagnosis of dementia.
- Domeperidone does not cross BBB to cause extrapyramidal symptoms and metochlorpromide does.
- Restless leg syndrome is treated by dopamine agonist → Ropinirole.
- In case of restless leg syndrome what is appropriate investigation to do → serum ferritin.

- Donepezil and galantamine is used to manage mild to moderate alzheimer disease and memantine is used to manage severe alzheimer disease.
- For paradoxical emboli → PFO > secundum ASD > primum ASD.
- Premium ASD → RBBB with LAD
- Secundum ASD → RBBB with RAD.
- In motor neuron disease wasting of small muscles of hands and tibialis anterior is common
- there is no sensory and cerebellar involvement, abdominal reflexes are preserved and.
- In Lewy body dementia symptoms get worse with neuroleptics (antipsychotics) and develop irreversible parkinsons.
- Diagnosis of lewy body dementia can be done by SPECT scan,
- Lewy body dementia is characterized by progressive cognitive impairment, parkinsonism and visual hallucinations.
- Stroke thrombolysis is only considered if patient presents with in 4.5 hours of symptoms and hemorrhage is excluded on CT and keeping in mind all the contraindications.
- Causes of bilateral Fascial nerve palsy → Sarcoidosis, Polio, GBS and Lyme disease.
- According to Chance/CAST trial if there is Minor ischemic CVA or TIA give Dual antiplatelets For 21 days followed By clopidogril. In case OF Huge infarct Disprin 300 Mg for 14 days followed By clopidogril.
- Lateral sinus thrombosis 6<sup>th</sup> and 7<sup>th</sup> nerve palsy.
- **Cluster headache:**  
Episodic intense Pain around eye, lacrimation, lid swelling, And pain typically occurs once or twice during day, and These clusters typically for 4 to 12 weeks.  
**Acute treatment:** 100% oxygen and subcutaneous or nasal Triptans.  
**Prophylaxis:** Prednisolone and verapamil.
- **Charcot-marie Tooth disease:** Autosomal dominant, Also known as **hereditary sensory motor neuropathy type 1** There is **Demyelinating** pathology involved. Start at puberty and motor symptoms predominate. There is distal muscle weakness Pes cavus, clawed toes, and foot drop. There is reverse Champagne bottle appearance of lower limbs.





- If the patient has migraine with aura then COCP are absolutely contraindicated as there is risk of → **Stroke**.
- **Pregnant female with migraine** are treated with → Paracetamol 1 gm > aspirin 300mg or ibuprofen 400mg.
- Absence seizures are provoked by → Hyperventilation.
- Better to avoid amitriptyline in BPH as there is risk of urinary retention.
- **Syringomyelia:** Development of cavity inside the spinal cord may extend into medulla called **syringobulbia**, it is associated with Arnold chiari malformation, slowly progressive weakness of arms and wasting of small muscles, loss of pain and temperature sensations due to damage to spinothalamic tract, loss of reflexes, and bilateral upgoing plantars, Horner's syndrome is also seen.
- **Prolactinomas:** medical therapy is always first line even if visual symptoms are present. Only indication for surgery is tumor resistant to dopamine agonists.
- **Pituitary tumor types:**
  - Prolactin secreting 35%.
  - Non-functioning chromophobe 30%.
  - Growth hormone secreting 20%
  - Prolactin and GH 7%
  - ACTH 7%
  - others less common
- In case of ischemic CVA if the person is intolerant to clopidogril start aspirin and dipyridamole combination life long.
- Drug induced parkinsonism is differentiated from primary Parkinson disease by :  
**In drug induced Parkinson** Motor symptoms develop rapidly, they are bilateral and rigidity and resting tremors are uncommon.
- **Peripheral neuropathy:** Maybe motor and sensory.
- Predominant motor:** GBS, CIDP, HSMN, Diphtheria, porphyria, lead poisoning.
- Predominant sensory:** Alcohol, B12 deficiency, uremia, leprosy, amyloidosis.

#### LOWER LIMB WEAKNESS:

PES cavus + Absent ankle reflexes & down going plantars is Charcot Marie  
 PES cavus + Absent ankle reflexes & up going plantars is a Fredrick's Ataxia  
 Lower motor leg weakness with no wasting and no sphincter involvement is acute GB (AIDP).  
 Lower motor leg weakness with wasting and sphincter sparing is likely CIDP or neuropathy.  
 Neuropathy usually has mixed sensory and motor signs and follows rule of length which means that by the time it reaches close to knee, it starts involving hands.  
 Lower motor leg weakness with sphincter involvement is Cauda Equina (patchy sensory and motor deficit which is L2 -S4) or Lumbar spinal cord pathology due to necrotising myelitis.  
 Spastic legs with normal upper limbs is thoracic cord.  
 Spastic legs with Flaccid upper limbs is cervical cord.  
 Spastic legs and spastic upper limbs is cervical cord above C5 or brain stem.  
 Spastic legs, spastic upper limbs and Flaccid tongue is medulla  
 Spastic legs, spastic upper limbs and spastic tongue is pons or above and (Exaggerated jaw jerk would mean lesion above pons).

If there is spastic paraplegia plus sensory loss with a definite upper limit → spinal cord compression.

If there is spastic paraplegia, Extensor plantar response and sensory loss in glove and stocking pattern and loss of vibration and position sense then it is → subacute combined degeneration of spinal cord.

If there is spastic paraplegia and there are cerebellar signs then it is MS or Friedrichs Ataxia, (in Friedrichs ataxia ankle reflexes are absent)

If there is spastic paraplegia with no sensory or cerebellar signs then it's MND.

Or or hereditary spastic paraplegia.

- **Parinaud's syndrome:** Dorsal midbrain signs and cerebellar signs → Friedrichs ataxia, mainly superior colliculus (by pinealoma most of time) located posterior to 3<sup>rd</sup> ventricle leading to increase ICP, non communicating hydrocephalous and dilated 3<sup>rd</sup> ventricle. cardinal features are:

- Upward gaze palsy
- Convergence retraction nystigmus
- And light near dissociation.

- In GBS if FVC is less than 15 ml/kg then intubate the patient.
- Best parameter to monitor in GBS is → FVC.
- Young patient presented with cerebellar hemangioblastomas, Polycythemia, Kidney cysts and RCC → von Hippel Lindau syndrome.
- Middle age lady personality changes sexual habits inappropriate social situations and repeatedly asking same questions → Pick's disease.
- First line treatment to prevent vision loss in idiopathic intracranial hypertension is → Urgent LP shunt.
- Sensory neural deafness absent corneal reflex and fascial palsy → Acoustic neuroma.
- Young patient with unilateral headache, ipsilateral homonymous, contralateral hemiparesis and neck pain → carotid artery dissection.
- 1st line treatment in status epilepticus is → Lorazepam.
- Patient is in neuroleptic treatment, developed features of parkinsonism, visual hallucinations and dementia → Lewy body dementia.
- History of migraine with aura, stroke and positive family history of migraine and early dementia, what is diagnosis → CADASIL (Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy).
- 1<sup>st</sup> line treatment in Neuroleptic Malignant syndrome is → Bromocriptine.
- Young patient, history of muscle pain after exercise dark and tea coloured urine is → McArdle disease. Best Ix is → Muscle biopsy
- Young patient presented with ophthalmoplegia, ptosis, retinitis pigmentosa, cerebellar syndrome cardiac conduction defects and hearing loss → Kearns Sayre syndrome.
- IV drug user presented with descending progressive muscular weakness, cranial nerves involvement affecting ocular movements, autonomic features and loss of reflexes → Botulism.
- Optic neuritis, myelitis, aquaporin 4 antibody positive and MRI spinal cord shows lesion extending upto 3 vertebral segments → neuromyelitis optica or Devic's disease.
- 30 to 50 years patient presented with chorea, personality changes, dementia, saccadic eye movement, lack of coordination, caudate nucleus atrophy → Huntington's disease. Treatment is tetrabenazine
- Investigation of choice to diagnose carotid artery dissection is → CT carotid angiogram.



- Distal muscle weakness, common peroneal nerve palsy, ulnar nerve palsy, pes cavus and clawed toes areflexia, and kyphosis → Charcot-Marie-Tooth disease.
- Peripheral neuropathy, sensorineural deafness, anosmia, cerebral ataxia, pes cavus, night blindness, cardiomyopathy, retinitis pigmentosa, short 4<sup>th</sup> and 5<sup>th</sup> toe, high phytic acid → Refsum disease.
- Headache, vomiting, sinusitis, periorbital edema, ophthalmoplegia (6<sup>th</sup>, 3<sup>rd</sup> and 4<sup>th</sup> CN), hyperaesthesia of upper face (CN 5<sup>th</sup>) → cavernous sinus thrombosis.
- Contralateral hemiparesis and lower limb is more involved than upper limb → Anterior cerebral artery.
- Upper limb more involved than lower limb and face involvement → middle cerebral artery.
- Déjà vu, epigastric sensations, followed by loss of consciousness, and lip smacking → temporal lobe epilepsy.
- Short stereotyped movements, abrupt onset and termination, bizarre vocalizations, bizarre behavior such as thrashing, kicking, genital manipulation → Frontal lobe epilepsy.
- Ophthalmoplegia, disturbance of consciousness, ataxia, hyperreflexia, anti-Gq1b antibody positive → bacterial encephalopathy (same like Miller Fisher but with hyperreflexia).
- Dix-Hallpike maneuver is used to diagnose BPPV and Epley maneuver is used to treat it.
- Normal straight leg raise sign differentiates spinal stenosis from other causes of lower limb nerve pain.
- In prolapsed lumbar disc there is pain on straight leg raise.
- L2 → Hip flexion
- L3 → Knee extension.
- L4 → Ankle dorsiflexion.
- L5 → Big toe dorsiflexion.
- S1 → Ankle plantar flexion.
- S2 → Knee flexion.
- Lesion in ventral pons leads to tetraparesis with loss of lower cranial nerve resulting in fascial nerve palsy and dysphagia.
- Raised ICP can cause a third nerve palsy due to herniation.
- Neurofibromatosis type 2 is associated with bilateral vestibular schwannomas.
- Obese, young female with headaches / blurred vision think idiopathic intracranial hypertension.
- Neurofibromatosis type 1 - chromosome 17 and NF 2 on Chromosome 22.
- Treatment of Bell's Palsy is with prednisolone because it increases the likelihood of complete recovery.
- Loss of corneal reflex - think acoustic neuroma.
- Natalizumab can cause reactivation of the JC virus causing progressive multifocal leukoencephalopathy (PML).
- Motor neuron disease - treatment: NIV is better than riluzole.
- Facioscapulohumeral muscular dystrophy is an autosomal dominant disorder.
- Lambert-Eaton syndrome or myasthenia gravis? Weakness in Lambert-Eaton improves after exercise, unlike myasthenia gravis; which worsens after exercise.
- Verapamil is used for long-term prophylaxis of cluster headaches.
- Non-contrast CT head scan is the first line radiological investigation for suspected stroke.
- Hypertension should not be treated in the initial period following an ischemic stroke.
- Fluctuating consciousness = subdural haemorrhage.
- Extensor plantars + absent ankle jerk → mixed UMN + LMN signs - motor neuron disease, subacute combined degeneration of cord, syringomyelia.
- Breast feeding is acceptable with nearly all anti-epileptic drugs.

- Confusion, ataxia, nystagmus + ophthalmoplegia are features of Wernicke's encephalopathy
- Carbamazepine is contraindicated in absence seizures
- Narcolepsy is associated with low orexin (hypocretin) levels
- Painful third nerve palsy = posterior communicating artery aneurysm  
Gingival hyperplasia: phenytoin, ciclosporin, calcium channel blockers and AML
- Cerebellar stroke patients can present like they are 'drunk'
- Syringomyelia - spinothalamic sensory loss (pain and temperature)
- Patients with an intracranial extradural haematoma may experience a lucid interval in which they briefly regain consciousness after the injury before progressing into a coma
- Frontal lobe lesions may cause perseveration
- Hemiballism is caused by damage to the subthalamic nucleus
- The most common pattern for progression of multiple sclerosis is relapsing-remitting.
- Myoclonic seizures Rx- sodium valproate
- **Migraine:** **Acute:** Triptan + NSAID or triptan + paracetamol **Prophylaxis:** topiramate or propranolol
- Laughter → fall/collapse → Cataplexy.
- **Brown-Sequard syndrome:** Ipsilateral weakness, loss of proprioception and vibration sensation, contralateral loss of pain and temperature sensation
- 'Fasciculations' - think motor neuron disease
- Contralateral hemiparesis and sensory loss with the upper extremity being more affected than the lower, contralateral homonymous hemianopia and aphasia - middle cerebral artery
- Episodic eye pain, lacrimation, nasal stuffiness occurring daily - cluster headache.
- **Dystrophia myotonica** - DM1 Distal weakness initially autosomal Dominant Diabetes Dysarthria, bilateral ptosis, frontal balding and cataract.
- Transverse myelitis can be caused by viral infection - such as varicella, herpes simplex, EBV and HIV.
- Sinusitis + focal neurology and fever → ?brain abscess
- Chorea is caused by damage to the basal ganglia, in particular the Caudate nucleus
- Bilateral spastic paresis and loss of pain and temperature sensation and tongue paralysis - Anterior spinal artery occlusion
- **Phenytoin** use is a cause of the cerebellar syndrome (Ataxia).
- Nimodipine is used to prevent vasospasm in aneurysmal subarachnoid haemorrhages
- FVC is used to monitor respiratory function in Guillain-Barre syndrome
- Treatment of neuroleptic malignant syndrome - dantrolene
- 5-HT<sub>3</sub> antagonists such as ondansetron can predispose to prolonged QT interval and increased risk of polymorphic VT
- Essential tremor is an AD condition that is made worse when arms are outstretched, made better by alcohol and propranolol.
- Parkinson's disease - most common psychiatric problem is depression
- Miller Fisher syndrome - Areflexia, Ataxia, Ophthalmoplegia.
- Restless legs syndrome - ferritin is the single most important blood test
- Syringomyelia classically presents with cape-like loss of pain and temperature sensation due to compression of the spinothalamic tract fibres decussating in the anterior white commissure of the spine.
- Absence seizures - good prognosis: 90-95% become seizure free in adolescence
- To detect a subarachnoid haemorrhage the LP should be done at least 12 hours after the start of the headache
- V for Vigabatrin - V for Visual field defects



- Trigeminal neuralgia - carbamazepine is first-line
- Common peroneal nerve lesion can cause weakness of foot dorsiflexion and foot eversion
- Sodium valproate may cause weight gain
- Stroke thrombolysis - only consider if less than 4.5 hours and haemorrhage excluded
- Cluster headache - acute treatment: subcutaneous sumatriptan + 100% O<sub>2</sub>
- Progressive supranuclear palsy: parkinsonism, impairment of vertical gaze
- Restless leg syndrome - management includes dopamine agonists such as ropinirole
- Charcot-Marie-Tooth disease can affect both motor and sensory peripheral nerve
- Extradural or subdural haemorrhage? Extradural = lucid period, usually following major head injury. Subdural = fluctuating consciousness, often following trivial injury in the elderly or alcoholics.
- Lateral medullary syndrome - PICA lesion - cerebellar signs, contralateral sensory loss & ipsilateral Horner's
- Always replace vitamin B12 before folate - giving folate to a patient deficient in B12 can precipitate subacute combined degeneration of the cord
- Contralateral hemiparesis and sensory loss with the lower extremity being more affected than the upper - anterior cerebral artery.
- If subarachnoid haemorrhage is suspected but the CT head is normal, a lumbar puncture is required to confirm or exclude this diagnosis
- Epilepsy medication: first-line for generalised seizure: sodium valproate
- Focal seizure: carbamazepine.
- Asymmetrical symptoms suggests idiopathic Parkinson's

### Multiple choice questions

- **Most common CNS tumor is ?**
  - Glioma
  - Meningioma
  - Ependymoma
  - Shwanoma

**ANS: A**
- **Patient presented with spastic paraplegia with diminished vibration sense and absent ankle reflexes . what is the cause ?**
  - Vitamin B12 deficiency
  - Folic acid deficiency
  - NPH
  - Spinal cord compression

**ANS: A**
- **30 year old female presented with spastic paraplegia and visual disturbance . what is your diagnosis ?**
  - Parasagittal meningioma
  - Meningitis
  - Brain stem infarction
  - SAH
  - MS

**ANS: E**
- **Female presented with easy fatigueability and diplopia, weakness of all four limbs . labs shows normal electrolytes . calcium is 2.1 and phosphate of 0.8 mmol what is your diagnosis ?**

- a. Osteomalacia
- b. Myasthenia gravis
- c. Hypoparathyroidism
- d. Hypothyroidism

ANS: B

- Sensory loss in all four limbs and hyperreflexia . lesion is at ?

- a. Above C5
- b. C5 -T1
- c. T1
- d. L1

ANS: A

- A patient presented with status epilepticus in ER what will be your immediate action ?

- a. IV insulin
- b. IV diazepam
- c. Airway patency
- d. IV phenytoin

ANS: C

- A girl while watching TV developed ptosis and diplopia which investigation is most Important in this patient ?

- a. MRI
- b. CT brain
- c. EMG
- d. NCS

ANS: C

- 49 year old male patient who is diagnosed case of lung cancer presented with trunkal ataxia . MRI brain is normal .what is the most likely diagnosis ?

- a. Paraneoplastic syndrome
- b. Addison's disease
- c. Cushing syndrome
- d. NPH

ANS: A

- 13 year old male known case of epilepsy was given antiepileptics , now he has developed hypertrichosis what is the causative drug ?

- a. Phenytoin
- b. Carbamazepine
- c. Valproate
- d. Lamotrigine

ANS: A

- A patient presented with absent ankle reflexes and glove and stocking pattern of sensory loss . now he has also developed Charcot joints. What is your diagnosis ?

- a. DM
- b. Syringomyelia
- c. MND
- d. Cervical myopathy

ANS: A



- A farmer suddenly become uncounscious following severe headache, he is afebrile and there is neck stiffness, what is the probable cause?

- a. Meningitis
- b. Encephalitis
- c. SOL
- d. Heatstroke
- e. SAH

ANS: E

- Spastic tongue with upper motor neuron signs what is the cause?

- a. Bulbar palsy
- b. Pseudobulbar palsy
- c. Progressive bulbar palsy
- d. AMLS

ANS: B

- A patient developed right sided burning pain after stroke what is the site of lesion?

- a. Thalamus
- b. Internal capsule
- c. Frontal lobe
- d. Caudate lobe

ANS: A Thalamic pain syndrome

- Common cause of SAH is?

- a. Berry aneurysm
- b. AV malformation
- c. HTN
- d. Hypotension

ANS: A

- Drug of choice in status epilepticus is?

- a. Phenytoin
- b. Diazepam
- c. Lorazepam
- d. Phenobarbital

ANS: C

- 30 year old lady presented with raised MCV, heaviness in both legs and anesthesia, which of the following will lead you to diagnosis?

- a. B12 level
- b. Folic acid level
- c. Xray spine
- d. MRI spine

ANS: A

- A patient presented to you in emergency in comatose state and generalized weakness. her attendants tell you that she is already a case of bipolar disorder. which lab test will you order?

- a. Serum sodium
- b. Serum potassium
- c. Serum calcium
- d. Serum phosphate

ANS: A

- Trinucleotide repeat is present in all of the following except ?
- Fragile x syndrome
  - Huntington syndrome
  - Friedrichs ataxia
  - Myotonic dystrophy
  - Achondroplasia

ANS: E

- Which of the following is not seen in friedrichs ataxia ?
- DM
  - Cardiomyopathy
  - Fits
  - Autosomal recessive disorder

ANS: C

- Recommended B12 replacement in patient with neurologic signs is ?
- 1 year
  - 2 year
  - 6 months
  - Life long

ANS: D

- 35 year old male patient wakes up repeatedly at night with severe unilateral periorbital pain with lacrimation . headache persist for 30 minutes and remits without medications .what is it called ?
- Migrane
  - Custer headache
  - SAH
  - Temporal arteritis
  - Trigeminal neuralgia

ANS: B

- Which of the following pathological abnormality is seen in Parkinson disease ?
- Mallory body
  - Negri bodies
  - Lewy bodies
  - Picks bodies

ANS: C

- A patient was found collapsed in the street , her CXR shows lobar pneumonia and serum sodium of 114 meq/l . He was treated in the emergency department . He regained his consciousness but was unable to speak on examination he has quadriparesis and brisk reflexes and upgoing plantars . he has no gag reflex and was unable to swallow . what is your diagnosis ?
- Brainstem stroke
  - Occipital infarct
  - SAH
  - Central pontine myelinolysis

ANS: D

- Which of the following is pathognomonic of neurofibromatosis ?

Last Days Revision Notes



- a. Café au lait spots
- b. Axillary freckling
- c. Cutaneous Neurofibromatosis
- d. Optic glioma

ANS: B

➤ In headache caused by subarachnoid hemorrhage, how many hours after headache you will find xanthochromia by doing LP?

- a. 2 hours
- b. 6 hours
- c. 12 hours
- d. 24 hours
- e. 72 hours

ANS: C

➤ Drug of choice in myoclonic fits is?

- a. Phenytoin
- b. Lamotrigine
- c. Ethosuximide
- d. Valproic acid

ANS: D

➤ A epileptic patient was taking lamotrigine for fits now developed fits again, what will you do next?

- a. Check drug level
- b. Increase dose
- c. Stop drug and start another drug
- d. Add another drug

ANS: A

➤ A patient comes to you in OPD with diagnosed case of tabes dorsalis. which of the following will you see in such patient?

- a. Optic atrophy
- b. Cataract
- c. Dysphagia
- d. Charcot joint

ANS: D

➤ Which of the following clinical sign differentiate subacute combined degeneration of spinal cord from multiple sclerosis?

- a. Absent ankle jerk
- b. Brisk knee jerks
- c. Sensory level
- d. Pes cavus

ANS: A

➤ A patient developed sudden onset of nystagmus, unilateral hypotonia and ataxia. what is the cause?

- a. MS
- b. MND
- c. Cerebellar infarct
- d. Syringomyelia

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ANS: C

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# ENDOCRINE SYSTEM

- **Androgen Insensitivity Syndrome:** Genotypically male child (46xy) to have female phenotype, as evident by well developed breasts and other 2° sexual characters but they present with primary amenorrhea and undescended testes, **Ixs** Buccal smear and chromosome analysis. **Rx** Bilateral orchidectomy and estrogen therapy.
- Most **common** cause of **thyrotoxicosis** is graves disease, most commonly seen in middle age female. Only 30% females have graves ophthalmopathy (eye signs), other features are pretibial myxedema (**orange peeling** of skin over shin bones), and thyroid acropathy and **onycholysis** (which is absent in Toxic multinodular goiter).



## 20.14 Comparison of treatments for the thyrotoxicosis of Graves' disease

Management	Common Indications	Contraindications	Disadvantages/complications
<b>Antithyroid drugs</b> (carbimazole, propylthiouracil)	First episode in patients < 40 yrs	Breastfeeding (propylthiouracil suitable)	Hypersensitivity rash 2% Agranulocytosis 0.2% Hepatotoxicity (with propylthiouracil) – very rare but potentially fatal > 50% relapse rate usually within 2 yrs of stopping drug
<b>Subtotal thyroidectomy<sup>1</sup></b>	Large goitre Poor drug compliance, especially in young patients Recurrent thyrotoxicosis after course of antithyroid drugs in young patients	Previous thyroid surgery Dependence on voice, e.g. opera singer, lecturer <sup>2</sup>	Hypothyroidism (~25%) Transient hypocalcaemia (10%) Permanent hypoparathyroidism (1%) Recurrent laryngeal nerve palsy <sup>2</sup> (1%)
<b>Radio-iodine</b>	Patients > 40 yrs <sup>3</sup> Recurrence following surgery irrespective of age Other serious comorbidity	Pregnancy or planned pregnancy within 6 mths of treatment Active Graves' ophthalmopathy <sup>4</sup>	Hypothyroidism, ~40% in first year, 80% after 15 yrs Most likely treatment to result in exacerbation of ophthalmopathy <sup>4</sup>

<sup>1</sup>A near-total thyroidectomy is now the favoured operation for Graves' thyrotoxicosis in many institutions and is associated with a higher risk of some complications, including hypothyroidism (nearly 100%), but a reduced risk of persistent or recurrent thyrotoxicosis.

<sup>2</sup>It is not only vocal cord palsy due to recurrent laryngeal nerve damage which alters the voice following thyroid surgery; the superior laryngeal nerves are frequently transected and this results in minor changes in voice quality.

<sup>3</sup>In many institutions, <sup>131</sup>I is used more liberally and is prescribed for much younger patients.

<sup>4</sup>The extent to which radio-iodine exacerbates ophthalmopathy is controversial and practice varies; some use prednisolone to reduce this risk.

- **Smoking** is an important modifiable risk factor for the development of thyroid eye disease in patient with graves disease.
- Radioiodine treatment is contraindication for treatment of graves disease when there is co-existing grave ophthalmopathy.
- **Diabetes mellitus:** FBS is more sensitive then HBA1C in the diagnosis of DM. Diabestes is diagnosed when FBS > 7 mmol, RBS or 2 hour post OGTT > 11 mmol and HBA1C > 6.5. some time HBA1c value less then 6.5 does not exclude diabetes. In asymptomatic patients test should be repeated twice to confirm diagnosis.



- Impaired fasting → 6.1 to 7 mmol/l and impaired glucose tolerance test → 7.8 to 11 mmol/L.
- Stop metformin if eGFR is less than 45 ml/min or creatinine is greater than 150 micromol/l (1.7 mg/dl).
- Normal or low blood pressure (no hypertension) with hypokalemia and raised bicarbonate (metabolic alkalosis) → Bartter syndrome (loop diuretics).
- Metformin is first line in treatment of diabetes, meglitinides are reserved for those who have erratic life style.
- Skin pigmentation and cardiomyopathy are relative reversible complications of hemochromatosis.
- Acromegaly first line of treatment is → trans-sphenoidal surgery
- Prolactinoma first line of treatment is → drugs (bromocriptine)
- Investigations for acromegaly is → OGTT with GH measurement.
- Pegvisomant → GH receptor antagonist is very effective in reducing IGF1 level to normal but does not reduce tumor size and surgery may still be needed.
- **Maturity onset diabetes of young age** : AD, presents in age less than 25 strong family history, good response to sulphonylureas.
- Treatment of LADA is insulin.
- Low dose dexamethasone is the best test to diagnose Cushing syndrome.
- Insulin stress test is used to differentiate between Cushing and pseudocushing.
- Insulinoma is diagnosed by **supervised prolonged fasting**.
- **Thiozolidinediones**: They are **PPAR-gamma** activators that increase insulin sensitivity. **Side effects** are Weight gain, liver impairment, increase risk of fracture, fluid retention (contraindicated in heart failure) and bladder cancer.
- **Rx of Infertility in PCOS** → Clomiphene is superior to metformin (anti-estrogen).
- Hirsutism in PCOS → COC pills if no response it is followed by topical eflornithine
- Gestational diabetes is diagnosed by → OGTT.
- **Gestational diabetes criteria** : Fasting Glucose > 5.6 mmol/L (100 mg/dl) and 2 hour Postprandial glucose > 7.8 mmol/L (140 mg/dl).
- At the time of diagnosis of diabetes if FBS levels are greater than 7 mmol/L then insulin should be started in pregnancy. If FBS is between 6 to 6.9 mmol/L with features of fetal macrosomia and hydramnios then insulin should be started. Otherwise dietary advice and exercise and metformin is started.
- **Contraindication of radioiodine therapy**: Pregnancy, age less than 16 years and thyroid eye disease.
- HbA1c should be rechecked after 2 to 3 months
- After starting thyroxine therapy TSH level should be checked in 6 weeks.
- Levothyroxine has half life of 7 days.
- HbA1c is used to check long term control of diabetes.
- Orlistat is pancreatic lipase inhibitor.
- Causes of predominant hypercholesterolemia is → nephrotic syndrome, hypothyroidism and cholestasis.
- Short synacthen test is used to diagnose → Addison disease.
- Tall patient with gynecomastia, firm small testes, low testosterone, **high LH and FSH** → Klinefelter syndrome.
- Anosmia, delayed puberty, +/- gynecomastia, cryptorchidism, normal IQ, **low LH, Low FSH and low testosterone** → Kallman syndrome. (hypogonadotropic hypogonadism).
- **Addison disease** → Hypo-natremia, hypoglycemia, Hypotension, hypoaldosteronism, hypoPH with Hyper-reninemia and hyperkalemia.



- **Causes of Addison disease** are: autoimmune, TB, mets, APLS, steroid withdrawal, HIV, CMV. **Peripheral smear** in Addison disease shows, eosinophilia, Lymphocytosis, neutropenia.
- Female lady presented with history of recurrent DVT and confirmed hypoaldosteronism as evident by hyponatremia and hyperkalemia what is your diagnosis → APLS (Hughes syndrome).
- Stress like surgery / steroid withdrawal / infection followed by hypotension, hypothermia, syncope, convulsions, hyponatremia and hyperkalemia, hypoglycemia → Addisonian crisis (First best management is to inject hydrocortisone).
- Child presented with fever, lethargy, postural hypotension, high ESR, DIC and purpura plus hyponatremia and hyperkalemia → Waterhouse-Friedrichsen syndrome.
- Exophthalmos, diplopia, conjunctival edema, optic disc swelling, inability to close eyes, lid lag and lid retraction, plus Eu, hypo or Hyperthyroidism → Thyroid eye disease.
- **Management of thyroid eye disease:** Stop smoking, Avoid radioiodine treatment, use topical lubricants, high dose steroids, orbital decompression.
- Side effects of carbimazole is agranulocytosis, stop carbimazole if patient develops sore throat or mouth ulcers and do neutrophil count stop. Start PTU once neutrophil counts are restored.
- Insulinoma RX surgery if intolerant to surgery then diazoxide and surgery.
- Radio-iodine therapy should be avoided for 6 weeks following CT contrast.
- T2DM patient presented with bilateral Quadriceps muscle wasting, diminished knee jerk reflexes pain in hips buttocks and thigh burning pain at night plantars shows extensor response, → Diabetic amyotrophy.
- Patient after head injury presented with hyponatremia and urine sodium more than 20 meq/l and low plasma osmolality less than 270, and high urine osmolality of 1000 what is your diagnosis → SIADH. 1<sup>st</sup> line treatment is fluid restriction. Hypertonic saline is only given in severe cases and should be corrected slowly otherwise it can lead to central pontine myelinolysis.
- T-score > -1 is normal, T score of -1 to -2.5 = osteopenia and T score of less than -2.5 = osteoporosis.
- **Osteoporosis: glucocorticoid-induced**  
Assessment for treatment - patients taking the equivalent of prednisolone 7.5 mg or more each day for 3 months or longer, and **one of the following:**  
Over the age of 65 years  
Have a history of a fragility fracture  
Have a T-score less than -1.5 SD  
The T-score of less than -2.5 is indicative of osteoporosis. However in patients on steroid therapy, the T score of less than -1.5 SD is taken as a cut-off value to start osteoporosis therapy and an indication for a bisphosphonate and Calcium supplementation.  
**Treatment:** Oral bisphosphonate + this should be co-prescribed with calcium + vitamin D.
- **Subclinical hypothyroidism:** High TSH but normal T3 and T4, **Give treatment** if there if TSH > 10, thyroid autoantibodies present, other autoimmune disorder, or the patient has previously taken treatment for Graves disease.
- In the presence of deranged RFTs (creatinine > 1.7) and you want to add another insulin sensitizer add pioglitazone and avoid metformin.
- Tendon xanthoma → familial hypercholesterolemia.
- In case of thyrotoxicosis Block and replace therapy should be avoided in pregnancy as blockers can cross placenta and thyroxine can not and may lead to fetal hypothyroidism. Maternal thyroxine level should be kept in upper limit to avoid fetal hypothyroidism.



- In Addison disease there may be mild hypercalcemia.
- **Pheochromocytoma:** Associations are VHL, NF and MEN2, 10 percent bilateral, 10 % malignant, and 10 % are extraadrenal. **Management:** surgery is definitive and medical management include alpha blockers are given before beta blockers.
- **Sick Euthyroidism:** Every thing is low i.e T3, T4 and TSH. Sometimes TSH level may be normal.
- Most common cause of cushing syndrome is iatrogenic and cushing disease (pituitary adenoma) is most common cause of non -iatrogenic cushing syndrome.
- Fibrates are the first line treatment in → Remnant hyperlipidemia.
- Liddle syndrome is autosomal dominant.
- Drivers should not be put on Sulphonylureas because of the risk of hypoglycemia.
- Hashimoto thyroiditis has association with → Lymphoma.
- **Important MCQs points about thyroid cancer**
- Papillary carcinoma:**  
Popular (most common), Previous irradiation, Psammoma bodies, orphan Annie eye (empty appearing nuclei with central clearing), Prognosis (is excellent).
- Medullary carcinoma:**  
C cell (parafollicular cells), Calcitonin production, (Congo red staining, Common with other tumors (associated with MEN 2A and 2B)
- Follicular carcinoma**  
Follicles are uniform, Follow blood (Hematogenous spread), Faulty iodine (common in iodine deficient areas). Finds way through (invades capsule)
- Anaplastic carcinoma**  
All ends (very poor prognosis), Aged (older patients), invades local structure
- Lymphoma**  
(nonHodgkin) lymphoma, association with Hashimoto thyroiditis (hurthle cells).  
Rx of follicular adenoma and carcinoma is → total thyroidectomy followed by radioiodine.
- **Carcinoid syndrome: (carcinoid with liver mets)** Flushing, diarrhoea, bronchospasm, tricuspid stenosis, **pallid**. **Dx:** 5HIAA and plasma chromogranin A Y. It occurs when mets are present in liver otherwise cleared by liver. lung carcinoid can present directly as carcinoid syndrome. **Rx:** Octreotide and cyproheptadine
- Patients with impaired glucose tolerance are more likely to develop diabetes than in patients with impaired fasting.
- **Insulinoma:** weight gain, early morning hypoglycemia, diplopia and sweating.  
Increase proinsulin to insulin ratio and high C-peptide level.
- **Pseudohypoparathyroidism:** end organ resistance to PTH leading to high PTH level, low calcium, high phosphate, short stature, chronic depression low IQ, and cataract, short 4<sup>th</sup> and 5<sup>th</sup> metacarpal bone. **Dx:** Is established by measuring urinary c-AMP and phosphate level following infusion of PTH.
- Pseudopseudohypoparathyroidism has same features but normal biochemistry.
- **Hypothyroidism:** Dry, cold yellow skin, non pitting edema of hands and face, dry coarse scalp hair, eczema and xanthomata.
- **Hyperthyroidism:** Pretibial myxedema (Orange peel appearance), thyroid acropathy, clubbing increase sweating.
- Insulin stress test is used for the diagnosis of hypopituitarism and to differentiate cushing from pseudocushing.
- Loss of libido in female with addison disease is due to → Dehydroepiandrosterone deficiency.
- Hypocalcemia and hypoparathyroidism is the first manifestation of type 1 Autoimmune polyendocrinopathy syndrome.



- **Type 2 autoimmune polyendocrinopathy syndrome (Schmidt)** : Is most common of autoimmune poly endocrinopathy syndrome. There is Addison disease plus either, T1DM or autoimmune thyroid disease.
- **Type 1 autoimmune polyendocrinopathy syndrome** : Mucocutaneous candidiasis, Addison disease and primary hypoparathyroidism. Vitiligo is present in both.
- Ovarian cyst on ultrasound are more diagnostic with PCOS than LH:FSH.
- Dynamic pituitary function test is not used to assess → ADH.
- MOST common cause of primary Hyperaldosteronism is → idiopathic Bilateral adrenal hyperplasia.
- Hashimoto thyroiditis → HLA-DR5 -antimicrosomal antibodies. 10 times more common in female.
- Renin aldosterone ratio is an appropriate first line investigation to diagnose CONN's syndrome.
- **T1DM**: HLA-DR4>HLADR3 Islet cell associated antigen antibodies and Glutamic acid decarboxylase antibodies.
- **De Quervain thyroiditis (subacute thyroiditis)**: Presents with hyperthyroidism, painful goiter, **raised ESR**, globally **reduced** uptake of Iodine on scan. **Rx** is supportive, aspirin or other NSAIDS, in severe cases steroids are used.
- Overnight dexamethasone suppression test is used to diagnose Cushing syndrome and is more sensitive than 24 hour urinary free cortisol.
- To diagnose pheochromocytoma 24 hour urinary metanephrines have got more sensitivity than 24 hour urinary free cortisol.
- **Fascial flushing** is the earliest sign in carcinoid syndrome.
- Pioglitazone when used with insulin it leads to more fluid retention.
- Primary hyperparathyroidism is most commonly seen after **solitary adenoma**.
- Hypothyroid patient can develop features of hyperprolactinemia because TRH increases prolactin secretion.
- Lithium leads to hypothyroidism.
- **Somogyi phenomenon**: morning Hyperglycemia (rebound), with 3 am Hypoglycemia. Body has been injected with **SO MUCH (SO-mugyi)** insulin at night which leads to 3am hypoglycemia and body responds by increasing stress hormones like glucagon and cortisol which leads to elevated blood sugar in morning.
- **DAWN phenomenon**: Morning hyperglycemia and also hyperglycemia at 3 am. body is injected with **Low insulin (Down)** at night.
- **Note** : Check blood sugar at 3 am to identify whether it is dawn phenomenon or somogyi effect.
- Commonest manifestation of MEN-1 is → Primary hyperparathyroidism.
- Low dose Dexamethasone was not able to suppress serum cortisol but high dose of dexamethasone was able to do so, serum ACTH is also raised what is your diagnosis → Primary hyperparathyroidism.
- What is true for Vitamin D deficiency → Low serum calcium, low phosphate and high PTH.
- Characteristic of diabetic nephropathy → It is bilateral.
- Amenorrhea, loss of libido and galactorrhea is a feature of → Prolactinoma.
- Hypothyroid Patient is on thyroxine, what is the best time to check TFTs → after 6 weeks.
- Patient presented with abdominal pain, episodic headache, and palpitations, what is the possible diagnosis → Pheochromocytoma.
- Patient presented with bitemporal hemianopia and spade like hands, what is the most appropriate test → OGTT with GH measurement.
- Erectile dysfunction in diabetic patient can be treated with → Sildenafil.

- Which of the following life style modification can reduce the risk of thyroid eye disease → Stop smoking.
- What is the differentiating point between cushing disease and obesity → Proximal myopathy.

MCQ: A patient with DM type 1 who is on combined regime of insulin with low blood sugar at 3 am and high at 6am is likely to have

- Downs phenomenon
- Somogyi phenomenon
- Low dose insulin phenomenon
- Dawn phenomenon

ANS: B

- Stages of diabetic nephropathy:

- Hyperfiltration
- Latent phase
- Incipient nephropathy, Microalbuminuria (30-300mg/day)
- Overt nephropathy (Persistent proteinuria) > 300mg/day (glomerulosclerosis and kimmel steil Wilson nodule)
- ESRD (GFR=15 ml/min)

## CLASSIFICATION

### INSULINS

Short acting  
- Regular

Intermediate acting  
- NPH / Isophane

Pre-mix insulins of  
NPH/Regular insulins

### INSULIN ANALOGUES

#### Ultra-short acting/Rapid acting

- Lispro
- Aspart
- Glulisine

#### Long acting

- Glargine
- Detemir
- Degludec

\*\* Protaminated lispro – NPL

Protaminated Aspart – NPA

Pre mix analogues of NPL with Lispro (50/50 & 75/25)

Pre mix analogues of NPA with Aspart (70/30)

- Insulin regimen:



- Low calcium and low phosphate with high ALP → Osteomalacia.
- Raised ALP raise calcium \_\_\_ Bone mets and Hyperparathyroidism.
- Raise ALP low calcium \_\_\_ Osteomalacia and Renal failure (increase phosphate)
- **Prolectinoma:** Prolactin levels less than 1000 → Stress or drugs  
Prolactin level between 1000 to 5000 → Microadenoma  
Prolactin level > 5000 and visual symptoms → Macroadenoma.  
**Best initial therapy** is dopamine agonist such as cabergoline, which will also reduce tumor size unlike acromegaly in which transphenoidal surgery is best option.



**Surgical decompression** is usually only necessary when a macroprolactinoma has failed to shrink sufficiently with dopamine agonist therapy, and this may be because the tumour has a significant cystic component. Surgery may also be performed in patients who are intolerant of dopamine agonists.

- > Insulin stress test is used to diagnose → Hypopituitarism.
- > To diagnose acromegaly we do → OGTT followed by GH levels.

**MCQ: In Growth hormone deficiency, which test is done?**

- a. GnRH stimulation test
- b. Insulin tolerance test
- c. Synacthen test
- d. Dexamethasone suppression test
- e. Water deprivation test

**ANS: B**

- > **Hypercalcemia:** Incidental diagnosis of **Hypercalcemia** or asymptomatic hypercalcemia during routine clinical check up is most of the time hyperparathyroidism due to solitary adenoma.

Acutely **symptomatic** (cardiac, neurologic and renal symptoms) hypercalcemia is **Malignant hypercalcemia** most of the time.

Rx: IV hydration with normal saline 4 to 6 liters and bisphosphonates.

- > **MCQ: A 48 years old man presented in cardiology opd for follow up. He is known case of Congestive Cardiac failure. 1 week before he visited a local doctor for some problem and he advised him HbA1c. He now came to you with result of HbA1c = 7.3%. which one of the following drug should be avoided in this patient?**

- a. Metformin
- b. Sitagliptin
- c. Pioglitazone
- d. Gliclazide
- e. Miglitol

**ANS: C**

- > **MCQ: What is the best initial test to diagnose acromegaly?**

- a. 100 g oral glucose tolerance test
- b. Insulin-like growth factor-1 levels
- c. CMRI of the brain
- d. Pituitary biops
- e. Adrenal venous sampling

**ANS: B** Most accurate is OGTT followed by GH measurement.

- > Diabetic neuropathy is usually bilateral.

- > **Water deprivation** establishes diagnosis of → Diabetes insipidus and response to vasopressin differentiate between CDI and NDI.

- > **ESRD** associated with high PTH and high calcium and high phosphate → tertiary hyperparathyroidism.

- > Treatment of hyperparathyroidism is → Medical treatment is Cinacalcet and **surgical** treatment is → Parathyroidectomy.

- > In lithium induced NDI (nephrogenic diabetes insipidus) Stop the drug, if not resolved then

- > Amiloride is the next best option.

- > Graves disease may present first and become worse in neonatal period.

- > Treatment of myxedema coma is IV hydrocortisone with IV T3 to avoid Addisonian crisis.



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# GASTROINTESTINAL SYSTEM

- Crohns disease most commonly effects terminal ileum and UC involves rectum usually.
- **Wilson disease:** ATP-7b gene on chromosome 13. In children it present with cirrhosis , in young adults it presents with neurological involvement.
- **Whipple disease :** Multi system disorder , associated with HLA-b27, jejunal biopsy shows PAS positive macrophages . Clinical features are malabsorption, large joint arthritis ,lymphadenopathy ,hyperpigmentation, pleurisy , pericarditis , ophthalmoplegia , dementia ,seizures and myoclonus.treatment oral cotrimaxazole for one year.
- 80 percent of patients with crohns disease will eventually have surgery.
- **Peutz jeghers syndromes:** Autosomal dominant ,numerous hemartomatous polyps in small bowl ,pigmented lesions on the oral mucosa ,lips, palms and soles and Intususception . 50 percent die of cancer at age of 60 years . Management is conservative unless complications develop .
- **Gilbert syndrome:** Isolated hyperbilirubinemia ,viral infections , stress , dehydration and fasting are the major triggers for rise in serum billirubin level ( unconjugated hyper-bilirubinemia ).
- **Kings college criteria for liver transplant in paracetamol poisoning :** Arterial ph less then 7.3 , 24 hours of ingestion of paracetamol . Or all of the following . PT > 100, serum cret-greater the 300 micro mol/l and grade 3 and 4 encephalopathy.
- Most common menifestatioin of MEN syndrome is hypercalcemia and most common manifestation of autoimmune polyendocrinopathy syndrome is hypocalcemia .
- 30 percent of cases of zollinger Ellison syndrome is part of MEN syndrome.
- Methotraxate has no role in treating ulcerative colitis.
- **Chronic pancreatitis:** Ct abdomen is useful modality for diagnosis . If imaging is in conclusive we can do fecal elasstase to assess exocrine function of pancreas . Diabetes mellitus typically appears after 20 years of appearance of symptoms .
- **H-pylori serology** remains positive post eradication , and **Urea breath test** is most important test to diagnose **H-pylori eradication** .
- Urea breath test should not be performed with in 4 weeks of antibiotics treatment and 2 weeks of anti-secretary drug ( PPis).
- Bile acid malabsorption test of choice is SeHCAT test .
- Test used to confirm malabsorption → Fecal fat test
- Fecal fat test is positive if fecal fats are greater then 6 gm per 24 hours.
- D-xylose test is used to diagnose malabsorption due to → mucosal abnormality of intestine .
- Test used to differentiate between malabsorption and maldigestion is → D-xylose test.
- Fecal elastase activity is used to diagnose → Pancreatic insufficiency (chronic pancreatitis) .
- Fecal calprotectin is used to differentiate between IBS and IBD
- To diagnose small bowl bacterial over growth syndrome do → Small bowl aspiration and culture.
- 24 hour pH monitoring is the Gold standard for the diagnosis of → GERD.
- Gold standard test for Achalasia is → Esophageal manometry
- Best initial test to diagnose pancreatitis is CT abdomen.
- Gold standard to diagnose lactase intolerance is → Lactase hydrogen breath test.





- Skin prick and RAST test is used to diagnose → Food allergy and skin patch test is used to diagnose contact dermatitis.
- Autoimmune hepatitis is most characteristically associated with elevated level of IgG and PBC with IgM.
- Clinical examination of ascites:
  - Clinical sign used to determine Minimal ascites → Puddle sign.
  - Most Reliable sign to detect ascites is → Shifting dullness.
  - Clinical sign used to detect Massive ascites is → Fluid thrill.
- Schilling test is used to diagnose → pernicious anemia.
- TTG antibodies is used to diagnose → celiac disease.
- 5HIAA is used to diagnose → carcinoid syndrome.
- Urinary tryptase is used to diagnose → systemic mastocytosis.
- Treatment of choice of anemia in CRF is → EPO injection.
- Esophageal varices band ligation is superior to sclerotherapy and in gastric varices sclerotherapy is done.
- Terlipressin has got mortality benefit over octreotide but first rule out IHD before administering. If heavy bleed not controlled on band ligation or sclerotherapy then sangstaken black more tube and TIPS is done in refractory cases Propranolol reduce chances of rebleeding.
- Blood group A is associated with gastric cancer and blood group O with peptic ulcer disease.
- Sustained viral response is: undetectable HCV RNA 6 months after the completion of antiviral treatment.
- Woman should not get pregnant till 6 months after stopping Ribavirin as it is teratogenic.
- Metronidazole is used as treatment for isolated perianal disease in case of Crohn's.
- Before starting azathiopurine always check TPMT levels.
- Infliximab is used in refractory and fistulating Crohn's disease and always exclude latent TB before starting treatment as it causes activation of TB.
- **Primary biliary cirrhosis** → Rule of M, AMA antibody, IgM and middle age female. F:M ratio is 9:1. **Interlobular bile duct** damage. Association is Sjögren, RA, systemic sclerosis and thyroid disease.
- **PSC**: Both intra and extrahepatic bile ducts inflammation and damage. 4% of the patients with UC have PSC and 80% of patients with PSC have UC. **ERCP** is the gold standard diagnostic tool. Liver biopsy has very limited role in diagnosis of PSC.
- Most common cause of biliary disease in HIV is sclerosing cholangitis 2° to CMV, Cryptosporidium and microsporidia.
- **Pancreatitis** in HIV is because of Didanosine and CMV.
- Gastric MALT lymphoma treatment is → H-pylori eradication.
- In case of celiac disease serology and biopsy results may be negative if patient is following → Gluten free diet.
- LES tone is decreased in systemic sclerosis and increased in Achalasia.
- H-pylori is not associated with esophageal cancer and it is actually protective.
- Majority of tumors arises from middle 3<sup>rd</sup> of esophagus.
- **Duodenal ulcer** → Most common site is first part anterior wall. Most common cause of massive bleed is involvement of **gastrooduodenal artery** on the **posterior wall** of duodenum. **Blatchford bleeding score (GBS)** is a screening tool to assess the likelihood



- that a person with an acute upper gastrointestinal bleeding (UGIB) will need to have medical intervention such as a blood transfusion or endoscopic intervention.
- **Endoscopic sclerotherapy** has little or no role in the prophylaxis of variceal bleed.
  - **Prophylaxis of variceal bleed:** BBs and band ligation.
  - **Clostridium difficile:** clindamycin is notorious for causing pseudomembranous colitis, but nowadays 2<sup>nd</sup> and 3<sup>rd</sup> generation cephalosporins are the leading cause. 1<sup>st</sup> line includes metronidazole for 10 to 14 days if not responding the oral vancomycin. for life threatening infection oral vancomycin and IV metronidazole is given.
  - In UC colitis inflammation always starts at the rectum and hence is the most common site for UC.
  - Barrett esophagus 50 to 100 fold increase risk of esophageal cancer and PBC 20 fold increase risk of HCC.
  - **Surveillance Colonoscopy in UC**  
Divide patient \_ categories  
**Low risk patient (5 yearly colonoscopy)**  
 Extensive colitis with **no active** inflammation  
 Less than 50 percent colon involved Or left sided colitis  
**Moderate risk (3 yearly)**  
 Pan colitis with mild inflammation  
 Family history of colorectal cancer with age of first degree relative greater than 50 years  
**High risk (1 yearly)**  
 Extensive colitis with severe inflammation Strictures  
 Dysplasia and complications like PSC Or family history of CRC of first degree relative age less than 50 years  
**NOTE:** Patients with concomitant UC and PSC are at higher risk for developing cancer colon, and it is recommended that they are screened annually with colonoscopy.
  - **Factors increasing risk of cancer in UC:**
    - Disease duration > 10 years
    - Onset before 15 years old
    - Patients with pancolitis
    - Unremitting disease
    - Poor compliance to treatment.
  - Villous adenomatous polyps have increased risk of developing colorectal cancer than tubular polyps.
  - Liver transplant is definitive treatment in → Primary biliary cirrhosis (5 year survival rate of 80 percent).
  - String sign in barium anema is seen in stenotic and non stenotic phase of Crohn's disease.
  - **For surveillance of peutz jeghers syndrome:** Oesophagogastrroduodenoscopy (OGD) and colonoscopy should be done at 8 years of age. If polyps are found, both examinations are repeated every 3 years; if no polyps are detected, a subsequent baseline examination is conducted at 18 years of age, and every 3 years thereafter.
  - Most common cause of lower GI bleed is → diverticulosis.
  - Thumb print sign is seen in ischemic colitis.
  - Vincent angina also known as necrotizing ulcerative gingivitis (gums) is caused by → *Borrelia vincenti*.
  - In Crohn's disease oxalate renal stones are formed due to hyper oxaluria.
  - In case of CELIAC disease there is scalloping of folds cracked mud appearance on endoscopy.
  - Treatment of dermatitis herpetiformis in celiac disease is dapsone with gluten free diet.



- Recognized complication of Vitamin B12 replacement is hypokalemia.
- Minimal ascites → (120 ml) Puddle sign is positive.
- Massive ascites → Fluid thrill is positive.
- Most sensitive clinical test to diagnose ascites is → Puddle sign.
- **Radiology and fluid**
  - ① Minimum Fluid for blunting of costophrenic angle on erect film → 250-400 ml
  - ② Minimum blood required in the stool for a positive occult blood test → > 10ml
  - ③ Minimum bleeding for melena → ~ 50 -100 mL Blood in Stomach
  - ④ Minimum fluid for radiological detection of ascites → 150 mL
  - ⑤ Minimum fluid for clinical of ascites → 1500 mL (1.5 L ascitic fluid must for → Flank Dullness)
  - ⑥ (2 L ascitic fluid is must for → Shifting Dullness & Bulging)
- Most common dermatological manifestation of IBD is → Erythema nodosum.
- Vipoma inhibit gastric secretions and increase intestinal secretion. Hence Vipoma associated with achlohydria.
- Most common location of duodenal ulcer is 1<sup>st</sup> part anterior wall of duodenum.
- Best prognostic test for acute and chronic liver disease is → PT.
- Which blood test differentiate between acute and chronic liver failure → serum albumin.
- No improvement in pt and aptt besides giving vitamin k means there is very little residual parenchyma left. **Acute liver necrosis.**
- Macrovesicular steatosis is seen in → NAS

<p><b>MACRONODULAR CIRRHOSIS</b></p>  <p>CAUSES: Viral hepatitis (B or C) - most common Wilson's disease Alpha-1-antitrypsin deficiency</p>	<p><b>MICRONODULAR CIRRHOSIS</b></p>  <p>The regenerative nodules - quite small, averaging &lt; 3 mm in size CAUSES: Chronic Alcoholism - Most Common Wilson's disease Primary biliary cirrhosis Hemochromatosis.</p>	<p><b>Table 5: CAUSES OF HEPATIC STEATOSIS</b></p> <p><b>Macrovesicular steatosis</b></p> <ul style="list-style-type: none"> <li>• Excessive alcohol consumption</li> <li>• Hepatitis C (genotype 3)</li> <li>• Wilson's disease</li> <li>• Lipodystrophy</li> <li>• Starvation</li> <li>• Parenteral nutrition</li> <li>• Abetalipoproteinemia</li> <li>• Medications (e.g. amiodarone, methotrexate, tamoxifen, corticosteroids)</li> </ul> <p><b>Microvesicular steatosis</b></p> <ul style="list-style-type: none"> <li>• Reye's syndrome</li> <li>• Medications (valproic acid, and several others)</li> <li>• Acute fatty liver of pregnancy</li> <li>• HELLP syndrome</li> <li>• Inborn errors of metabolism (e.g. glycogen storage disease, Wolman disease)</li> </ul>
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- Pain of reflux esophagitis is increased by bending forward and in case of pericarditis it is relieved.
- Reversible complications of hemochromatosis are → cardiomyopathy and skin pigmentation. irreversible complications include arthropathy and diabetes.
- Treatment of acute pancreatitis is IV fluids and analgesia and not antibiotics.
- Risk factors for **small bowel bacterial overgrowth syndrome** is DM, scleroderma diagnosis is made by jejuna aspirate and culture and hydrogen breath test and treatment of choice is → **Rifaximin**.
- Pain that wakes you at night to pass stools is not a feature of IBS.
- There is strong association between porphyria cutanea tarda and HCV.
- HCV genotype 3a responds best to treatment.
- For celiac serology to become negative patient should be on gluten free diet for at least 6 months
- In case of celiac serology false negative serology test can be seen in selective IgA deficiency



- **Melanosis coli:** Bowel wall pigmentation Histology shows pigment laden macrophages associated with laxative abuse.
- Old age persistent diarrhoea with frequent mucous and Hypokalemia → Villous adenoma
- Primary biliary cirrhosis is associated with Sjogren syndrome Rheumatoid arthritis, Systemic sclerosis and Thyroid disorders.
- Best way to assess response to treatment in HCV is viral load.
- HLA-DQ2 is most commonly associated with celiac disease and celiac disease is more common in females.
- In case of HBV without intervention rate of vertical transmission is → 20 percent and this rate increases to 90% if mother is HBeAg positive.
- HBV can not be transmitted with breast feeding.
- Celiac disease and scleroderma have strong association with esophageal cancer.
- In Crohn's disease there is increase in amount of goblet cells and ulcerative colitis there is depletion of goblet cells from mucosa.
- In UC surgery is curative and in Crohn's it is not curative.
- Granulomas are frequent in Crohn's disease.
- Gastric parietal cell antibodies are more common in pernicious anemia and most specific antibodies to diagnose pernicious anemia is → Anti-intrinsic factor antibodies.
- After treatment abscess cavity completely gets resolved in → 6 months time radiologically.
- **Criteria for liver transplant in PBC:** Serum bilirubin greater than 100 mmol/l and intractable pruritis.
- Bloating is not a feature of inflammatory bowel disease.
- What suggests ascites due to portal hypertension → **SAAG ratio of greater than 1.1.**
- Patient presented to ER with A/C of violent vomiting followed by shock, xray shows left sided pleural effusion and pleural fluid is exudative with high amylase i.e ratio of pleural fluid amylase to serum amylase is greater than 1 what is your diagnosis → Oesophageal rupture.
- Patient has taken treatment for Clostridium difficile in the form of metronidazole for 7 days, now he has improved but yet stool shows C-difficile what to do next → DO nothing.
- Investigation of choice for Barrett esophagus → Endoscopic biopsy.
- Barrett esophagus with no dysplasia → Endoscopic surveillance every 2 yearly.
- Barrett esophagus with mild dysplasia → Endoscopic surveillance every 6 to 12 months.
- Barrett esophagus with high grade dysplasia → Endoscopic surveillance every 3 to 6 months.
- Isolated unconjugated hyperbilirubinemia with normal LFTs → Gilbert syndrome.
- Jaundice in Gilbert is exacerbated by fasting, acute illnesses like sore throat and also by estrogens and is improved by → Low Dose Barbiturates.
- Investigation for Gilbert syndrome → rise in bilirubin is provoked by → IV nicotinic acid.
- Young patient presented with Chronic diarrhoea which contains no blood and weight loss and there is mass palpable in right iliac fossa what is your diagnosis → Crohn's disease.
- **Complications of Crohn's disease** include → Gall stones, Oxalate renal stones, hyperoxaluria, anal tags, fistulas, mouth ulcers, perianal disease and skin tags and episcleritis **NOTE** → uveitis is common in ulcerative colitis.
- **Histology in CROHN** → All layers of the bowel are involved and there are high number of goblet cells (in ulcerative colitis Goblet cells are depleted), there are granuloma (non caseating) deep ulcers, skip lesions and cobble stone appearance.
- **Radiology In CROHN** → Kantor string sign (stenotic and non stenotic Crohn's disease), rose thorn ulcers.
- **Serology in Crohn's** → ASCA positive.
- **Treatment of refractory Crohn's:** Infliximab.



- Treatment of fistulating CROHNS: Infliximab.
- Treatment of perianal disease is → Metronidazole.
- Treatment of acute flare is (induction of remission) → IV steroids.
- Crohns disease in pregnancy → Steroids.
- Maintaining remission in crohns disease → stop smoking, azathioprine, or mercaptopurine, is first line. Mathotraxate is second line (MTX has no role in UC). And 5-ASA (mesalazine) can be used if surgery has been done (almost 80 percent of people with crohns disease undergo surgery during life time).
- Management of ulcerative colitis:
  - Induction of remission: Mild to moderate colitis Rectal 5-ASA (distal colitis involving rectum and distal sigmoid colon), oral 5-ASA (proximal colitis). 2<sup>nd</sup> line is oral steroids.
  - Maintaining remission: Severe colitis: IV steroids are 1<sup>st</sup> line. oral 5-ASA, Mesalazine, azathioprine and 6 mercaptopurine.
- There is no role of MTX here.
- Risk of colorectal cancer is greater with → UC > crohns disease.
- Oligospermia is side effect of → Sulphasalazine.
- Risk of pancreatitis is greater with → Mesalazine > Sulphasalazine.
- Investigations of IBD → Endoscopy is investigation of choice and CRP shows disease activity. Fecal calprotectin is high in IBD and normal level makes the diagnosis of IBD unlikely.
- Toxic megacolon: It is a severe colitis (pancolitis). It is defined as dilatation of the transverse colon  $\geq 6$  cm at its widest point radiologically on abdominal x ray or CT.
- Truelove-Witts Criteria of severe colitis:
  - More than 6 bloody diarrhoea / day
  - Temperature  $> 37.8^{\circ}\text{C}$  in 2 out of 4 days.
  - HR  $> 90$  bpm.
  - TLC: Neutrophil count greater than  $10 \times 10^9/\text{L}$
  - Hb  $< 10.5$  gm/dl
  - ESR  $> 30$  mm/hr
  - CRP  $> 30$  mg/L
  - Dilated colon  $\geq 6$  cm
  - Other radiological findings include loss of haustral pattern, mucosal Oedema and thumb printing.
- NOTE → It is an absolute contraindication to Ba enema examination because of the risk of bowel perforation. High mortality about 20%.
- Most reliable sign in toxic megacolon is → Pulse rate.
- Helpful investigation in toxic megacolon is → Xray.
- Treatment of choice in toxic megacolon is → colectomy.
- Management of toxic megacolon → HDU (high dependency unit): High dose of IV steroids + Rectal steroids + IV fluids ± Cyclosporine ± Infliximab ± surgery (colectomy). Antibiotics have not been demonstrated of help.
- The gastroduodenal artery can be the source of a significant gastrointestinal bleed occurring as a complication of peptic ulcer disease.
- Gastric adenocarcinoma - signet ring cells.
- Spontaneous bacterial peritonitis - treatment: intravenous cefotaxime
- Obese T2DM with abnormal LFTs - → non-alcoholic fatty liver disease ALT  $>$  AST.
- Hepatorenal syndrome is primarily caused by splanchnic vasodilation
- Terlipressin - method of action = constriction of the splanchnic vessels
- NICE recommend avoiding lactulose in the management of IBS
- Ulcerative colitis - depletion of goblet cells.



- Torsades-des-pointes secondary to hypomagnesaemia can result as a consequence of refeeding syndrome.
- The gold standard test for achalasia is oesophageal manometry
- Liver failure following cardiac arrest think ischaemic hepatitis
- Liver abscesses are generally managed with a combination of antibiotics & drainage
- Flushing, diarrhoea, bronchospasm, tricuspid stenosis, pellagra → carcinoid with liver mets - diagnosis: urinary 5-HIAA
- Angiodysplasia is associated with aortic stenosis
- Oesophageal/Gastric Cancer - Endoscopic ultrasound (EUS) is better than CT or MRI in assessing mural invasion
- HBsAg negative, anti-HBs positive, IgG anti-HBc positive - previous infection, not a carrier
- Faecal elastase is a useful test of exocrine function in chronic pancreatitis
- In suspected SBP- diagnosis is by paracentesis. Confirmed by neutrophil count >250 cells/ul
- Antibiotic prophylaxis can reduce mortality in cirrhotic patients with gastrointestinal bleeding
- Coeliac disease has a strong association with HLA-DQ2 (present in 95% of patients)
- Acute pancreatitis is the most common complication of ERCP
- Anal fissure - topical glyceryl trinitrate
- Diarrhoea, weight, arthralgia, lymphadenopathy, ophthalmoplegia → Whipple's disease
- Patients with ascites (and protein concentration  $\leq 15$  g/L) should be given oral ciprofloxacin or norfloxacin as prophylaxis against spontaneous bacterial peritonitis
- Whipple's disease: jejunal biopsy shows deposition of macrophages containing Periodic acidSchiff (PAS) granules
- **H. pylori eradication:** • PPI + amoxicillin + clarithromycin, or • PPI + metronidazole + clarithromycin.
- Dysphagia affecting both solids and liquids from the start - think achalasia
- HBsAg negative, anti-HBs positive, IgG anti-HBc negative - previous immunization
- Positive anti-HBc IgG, negative anti-HBc IgM in the presence of positive HBsAg implies chronic HBV infection
- The splenic flexure is the most commonly affected site in ischaemic colitis
- Give 50% of normal energy intake in starved patients (> 5 days) to avoid refeeding syndrome
- Familial adenomatous polyposis is due to a mutation in a tumour suppressor gene called adenomatous polyposis coli gene (APC)
- Carcinoid syndrome can affect the right side of the heart. The valvular effects are tricuspid insufficiency and pulmonary stenosis.
- Ferritin and transferrin saturation are used to monitor treatment in haemochromatosis
- Urea breath test - no antibiotics in past 4 weeks, no antisecretory drugs (e.g. PPI) in past 2 weeks
- Gastric MALT lymphoma - eradicate H. pylori
- The most common cause of chronic pancreatitis is alcohol excess
- Spontaneous bacterial peritonitis: most common organism found on ascitic fluid culture is E. coli
- Metronidazole is the first line antibiotic for use in patients with Clostridium difficile infection
- Ulcerative colitis - the rectum is the most common site affected
- Budd-Chiari syndrome - ultrasound with Doppler flow studies is very sensitive and should be the initial radiological investigation
- Peutz-Jeghers syndrome - autosomal dominant
- TMPT activity should be assessed before offering azathioprine or mercaptopurine therapy in Crohn's disease
- Lactulose and rifaximin are used for the secondary prophylaxis of hepatic encephalopathy
- ERCP/MRCP are the investigations of choice in primary sclerosing cholangitis
- The oral contraceptive pill is associated with drug-induced cholestasis
- A severe flare of ulcerative colitis should be treated in hospital with IV corticosteroids
- Wilson's disease - autosomal recessive
- High-resolution CT scanning is the diagnostic investigation of choice for pancreatic cancer

General population: transferrin saturation > ferritin

- **Screening for haemochromatosis:**  
Family members: HFE genetic testing
- **Causes of villous atrophy** (other than coeliacs): tropical sprue, Whipple's, lymphoma, hypogammaglobulinaemia
- Flucloxacillin is a well recognised cause of cholestasis
- Patients with ascites secondary to liver cirrhosis should be given an aldosterone if resistant then add furosemide
- In life-threatening Clostridium difficile infection treatment is with ORAL vancomycin and IV metronidazole
- In haemochromatosis, cardiomyopathy and skin pigmentation are reversible with treatment
- A non-cardioselective B-blocker (NSBB) is used for the prophylaxis of oesophageal bleeding
- Coeliac disease - tissue transglutaminase antibodies are the first-line test.
- 25 year lady come to opd with history of mild diarrhoea for many months, pain in right iliac fossa and weight loss since 1 month. Examination finding: Anemia and Tender mass in right iliac fossa. Endoscopy show transmural inflammation of ileum. → Crohn's disease.
- Bloody diarrhoea + positive pANCA → UC
- Diarrhoea + perianal fistula or skip lesions → Crohn's disease.
- Diarrhoea + vit B12 def + oral ulcers → Crohn's disease.
- Bloody diarrhoea + elderly with left iliac fossa pain and tenderness → Diverticulitis.
- Bleeding per rectum + aortic stenosis → angiodysplasia (commonly affect right colon).
- Bleeding per rectum + AF + metabolic acidosis → Ischemic colitis.
- Bleeding per rectum + loss of weight + history of acromegaly → Cancer colon.
- Bleeding per rectum + perioral pigmentation → Peutz-Jeghers syndrome
- Bleeding per rectum + skull or bone osteoma, skin fibroma + family history → Gardner syndrome.

### Multiple choice questions

- **Which of the following is the best investigation to diagnose celiac disease?**

- a. Anti gliadin antibodies
- b. Anti reticulin antibodies
- c. Endomysial and tissue transglutaminase Antibodies
- d. Antinuclear antibodies
- e. Absorption tests

ANS: C

- **Health worker is at risk of?**

- a. Hepatitis
- b. Pneumoconiosis
- c. Malaria
- d. Dengue

ANS: A

- **Young male presented to OPD with complaint of cough while lying on bed at night. he is also complaining of retrosternal pain on and off. what is your diagnosis?**

- a. GERD
- b. Chest infection
- c. Asthma
- d. COPD

ANS: A

- **Rapidly developing hypokalemia and low urinary chloride occurs in?**

- a. Diarrhoea



- b. Vomiting
- c. RTA
- d. Cushing syndrome

ANS: B

➤ Young girl with the history of anorexia nervosa presented to your OPD with complaints of red crust lesions around the corner of mouth and below lower lip. she is deficient in?

- a. Zinc
- b. Selenium
- c. Thiamine
- d. Pantothenic acid

ANS: A

➤ Celiac disease is most commonly associated with?

- a. Recurrent oral ulcers
- b. Dermatitis herpatiformis
- c. Ankylosing spondylitis
- d. Scleritis

ANS: A

➤ Best treatment for hepatopulmonary syndrome is?

- a. Liver transplant
- b. Lung transplant

ANS: A

➤ A patient with diarrhoea and right iliac fossa mass what investigation will you perform?

- a. Colonoscopy
- b. Sigmoidoscopy
- c. US
- d. CT abdomen

ANS: A

➤ A patient in the last week of life become jaundiced. autopsy showed 3500 gm yellow greasy enlarged liver with necrosis on histopathology. what is most likely diagnosis?

- a. Hemochromatosis
- b. Wilson disease
- c. Alcohol
- d. Galactosemia

ANS: C

➤ Patient presented with gross ascites and absent hepato jugular reflex. what is the cause?

- a. Hepatic vein thrombosis
- b. Portal vein thrombosis
- c. Mesenteric ischemia
- d. Cardiac ascites

ANS: A

➤ Confirmatory investigation for Wilson disease is?

- a. Liver biopsy
- b. KF ring
- c. Serum ceruloplasmin
- d. Urine copper

ANS: A

- Nurse who had received vaccination against hepatitis B now has needle stick injury (patient is HBV positive) what will you do?

- Give her booster dose
- Active and passive immunization
- Passive immunization
- Reassure

ANS: A

- Alcoholic patient with history of pancreatitis and epigastric pain which got severe in 2 months. CT showed 7x8 cm cyst and increased peritoneal fluid surrounding bowel loops.

- Pancreatic adenocarcinoma
- Pancreatic pseudocyst
- Adenoma pancreas
- Metastatic cancer

ANS: B

- Patient with pyloric stenosis had intractable vomiting which of the following metabolic abnormality will be present?

- Hypokalemic alkalosis with alkalinuria
- Hyperkalemic alkalosis with alkalinuria
- Hypokalemic, hypochloremic metabolic alkalosis with aciduria
- Hyperchloremic acidosis

ANS: C

- Young male presented with ascites and jaundice, he has previous history of venesection, what is more likely diagnosis?

- Hepatitis
- Hepatic vein thrombosis
- Cardiac failure
- Pancreatitis

ANS: B

- Patient with DM, hyperpigmentation of skin and hypogonadism, what is more likely diagnosis?

- Hemochromatosis
- Amyloidosis
- Wilson disease
- Acute hepatitis

ANS: A

- Patient presented with upper GI bleed, endoscopy shows polyp, what is the next step to do?

- Polypectomy with biopsy
- US abdomen
- LFTs
- CT scan abdomen

ANS: A



A 40 year old male known case of celiac disease was well controlled on gluten free diet now from last 2 weeks he is having severe diarrhoea and stool for occult blood is positive . what investigation will you do next ?

- a. CT scan abdomen
- b. Duodenal endoscopy with biopsy
- c. Anti TTG
- d. Colonoscopy

ANS: B

Rapidly developing ascites in patient with polycythemia with tender liver indicates ?

- a. Hepatic vein thrombosis
- b. Portal vein thrombosis
- c. Pancreatitis
- d. HUS

ANS: A

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# RESPIRATORY SYSTEM

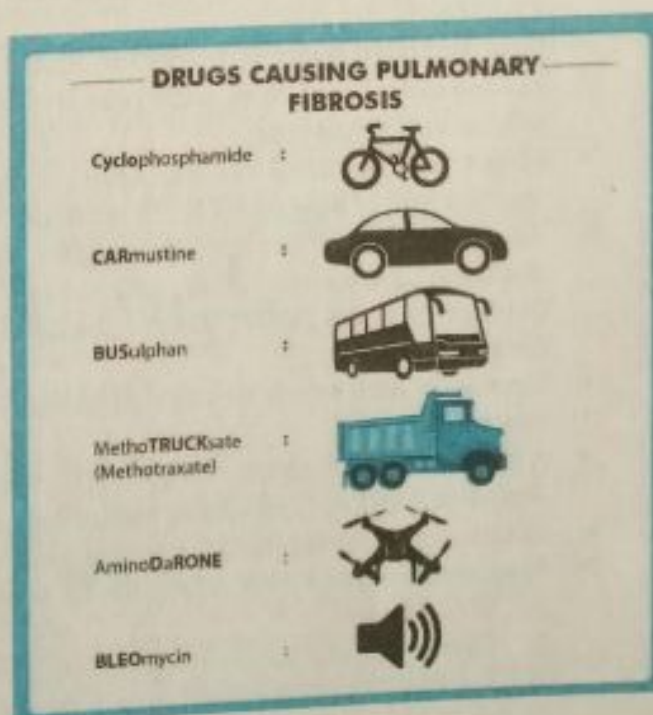
- Low or moderate severity Community acquired pneumonia managed at home → oral amoxicillin, if admitted in hospital oral amoxicillin plus macrolide.
  - High severity CAP → IV coamoxiclav plus clarithro or IV cefuraxime plus clarithromycin.
  - Flow volume loop is the investigation of choice for upper air way obstruction.
  - Patient who are critically ill oxygen should be given at 15/L per minute via reservoir mask.
  - O<sub>2</sub> target in acutely ill patient is 94 to 98 percent.
  - O<sub>2</sub> target in patient who are at risk of hypercapnia is → 88 to 92% (use 28% venturi mask at 4 liters per minute).
  - **Most common cause of bronchiectasis is** → Recurrent chest infections.
  - Chronic productive cough with clubbing and BILATERAL coarse crepts → bronchiectasis.
  - Dry cough, clubbing and Bilateral bibasal fine crepts on chest examination → ILD.
  - Most common infection in cystic fibrosis is → Pseudomonas.
  - Lobar pneumonia on CXR presents air bronchograms with non homogenous opacities.
  - Lung collapse appear on CXR as loss of lung volume.
  - A chronic smoker admitted with shortness of breath. His residual volume and total lung capacity is raised, what is your diagnosis → Emphysema. 10
  - **Patient developed fever 2 days after abdominal sugery, he is having tachypnea and tachycardia with chest crackles :what is your diagnosis ?**
    - a. Pulmonary infarction
    - b. Pneumonia
    - c. Atelectasis
    - d. Pneumonia
    - e. MI
- Ans B**
- **Explanation :** Post OP 1 to 2 days → Atelectasis common and Post OP after 2 days → Pneumonia is common.
  - Patient with renal disease or allergy to contrast media having pulmonary embolism should be offered V/Q scan as Contrast media used in CTPA is nephrotoxic.
  - Small cell lung cancer → Rx → Surgery, chemo plus radio.
  - NSCLC → chemoresistant. 20 % suitable for surgery. Rx → Paliative and curative radiotherapy.
  - **Squamous cell lung cancer (NSCLC)**
  - **Contraindications for surgery**
    - Assess general health
    - Stage III or IV disease
    - Malignant pleural effusion
    - Tumor near the hilum
    - SVC obstruction
    - Vocal cord paralysis
  - Monitoring of patient with COPD is → FEV1
  - Monitoring of patient with Asthma → PEFR.
  - Infective exacerbation of COPD is → H-influenza > Strep Pneumoniae > Moraxella catarrhalis and among virus is Rhinovirus (30% exacerbations).
  - Pneumonia in COPD → Strep pneumoniae



- Bronchiectasis in COPD → H- influenza > pseudomonas > klebsiella
- Cystic fibrosis → pseudomonas ( Rx → ceftizidime)
- Young female with SLE → switch to Azothioprine.
- Suspected occupational asthma → serial peak flow measurement at work and at home.
- Cystic fibrosis → High fat and high calorie diet with pancreatic enzyme supplementation.
- Decrease glucose in pleural fluid → RA , malignancy and TB.
- **Idiopathic pulmonary fibrosis** : Patient present with progressive SOB, dry cough ,clubbing , chest examination shows fine bibasal crackles and spirometry shows restrictive pattern . investigation of choice is → HRCT. ( bilateral interstitial shadowing typically ground glass ,peripheral later progressing to honey-combing) .
- **Bronchiectasis** ; chronic productive cough , clubbing , coarse crackles on chest examination . May be post infective like pneumonia , measles , pertussis and Tb.cystic fibrosis , bronchial obstruction , immune deficiency like selective igA deficiency , ABPA, kartagener , young syndrome and yellow nail syndrome . Ct chest shows tram tract and signet ring cells .
- **Legionella** : Colonises tanks , **Hint** in the question air conditioning system , foreign holiday , hyponatremia , person to person transmission is not seen . flu like symptoms , dry cough . Dx by urinary antigen and Rx by erythromycin (macrolides) .
- Crocidolite or blue asbestosis is the most dangerous form of asbestos .
- Löffler syndrome is associated with → Ascaris lumbricoides .
- Tropical pulmonary eosinophilia is associated with → wucherera bancrofti.
- **Local anesthetic thoracoscopy** is now high yield to diagnose cytology negative exudative pleural effusion for tissue biopsy in case of suspected malignancy.
- Tidal volume is normal in both obstructive and restrictive lung disease .
- **Air bronchogram** on Xray is hard sign for consolidation.
- Among lung cancers squamous cell lung cancer is more likely associated with → cavitary lesion on CXR.
- Method used to measure volume and diffusion capacity of each lung simultaneously → Bronchspirometry.
- To monitor severity and response to treatment in Asthma → PEF

➤ **Drugs causing lung fibrosis:**

- Amiodarone
- Bleomycin
- Busulfan
- MTX
- Cyclophosphamide
- Melphalan
- Gold
- Nitrofurantoin
- Tocainamide
- Sulfasalazine



- Characteristic feature of ARDS is → Inverse inspiratory to expiratory pressure to maintain auto PEEP.
- PCWP will be normal in ARDS.
- In occupational Asthma diagnosis is made on the basis of PEFR.
- Mycoplasma pneumonia if patient is unable to tolerate macrolides then next best option is → doxycycline.
- Transudative pleural effusion
  - Hypoalbuminemia
  - Hypothyroidism
  - Heart failure
  - Meigs syndrome
- Exudative pleural effusion
  - Infection
  - Connective tissue disorder like RA and SLE
  - Neoplasia
  - Pulmonary embolism
  - Pancreatitis
  - Dressler syndrome
  - Yellow nail syndrome
- ACE levels are not reliable in diagnosis of sarcoidosis but they have role in monitoring of disease activity.
- Most helpful investigation to diagnose pneumothorax is → CXR.
- A diagnosed case of rheumatoid arthritis presented with obstructive pattern on spirometry, what can be the possibility? → bronchiolitis Obliterans.
- A patient with massive pulmonary embolism will most likely present with → Shock.
- A middle aged **alcoholic** patient presented to you in ER department with fever, chest pain productive cough and shortness of breath, his sputum examination showed mixed growth, what is your diagnosis → Aspiration pneumonia.
- In case of life threatening asthma best management is → Ventilator support.
- Pulmonary embolism ECG findings are → sinus tachycardia, Right axis deviation and S1 Q3 T3 pattern.
- Gold standard diagnostic test for obstructive sleep apnea is → polysomnography.
- Yellow discoloration of nails plus lymphedema, pleural effusion and bronchiectasis → yellow nail syndrome.
- Obese man is tired all the time, excessive day time somnolence, reduced REM sleep, snoring and is having HTN, → obstructive sleep apnea syndrome.
- Young **Diabetic** patient, presented with history of recurrent chest infection, chronic diarrhoea, abnormal LFTs, gall stones, steatorrhea → Cystic fibrosis? (**Features** include delayed puberty, short stature, nasal polyps, male infertility, female subfertility, meconium ileus).
- Teenager with cystic fibrosis presented with chest infection what is **RX**? → ceftazidime and tobramycin.
- Asthma, eosinophilia, high IgE level, microscopic hematuria, ulnar nerve palsy, sinusitis, PANCA, is → Churg Strauss syndrome.
- Diagnostic investigation for sarcoidosis is → transbronchial Lung biopsy.
- Management of obstructive sleep apnea
  - a. Weight loss
  - b. CPAP is first line for moderate and severe OSA.
  - c. If CPAP is not tolerated then surgery → uvulopalatopharyngoplasty is last option.



- Survival benefits in COPD is provided by following interventions
  - a. Smoking cessation
  - b. LTOT
  - c. Lung volume reduction surgery.
- **Indications for LTOT**
  - a.  $\text{PaO}_2$  of less than  $\rightarrow 7.3 \text{ kPa}$  (55 mmHg). OR
  - b.  $\text{PaO}_2$  of 7.3 - 8 kPa (55 - 60 mmHg) in the presence of any one of the following
    - I. 2<sup>o</sup> polycythemia
    - II. Nocturnal hypoxemia
    - III. Peripheral edema
    - IV. Pulmonary HTN.
- LTOT is done for atleast  $\rightarrow 15$  hours per day
- Bronchiectasis: most common organism  $\rightarrow$  Haemophilus influenzae
- **Light's criteria:** Effusion LDH level greater than 2/3rds the upper limit of serum LDH points to exudates
- COPD - still breathless despite using SABA/SAMA  $\rightarrow$  add a LABA + ICS
- Transfer factor is raised in : asthma, haemorrhage, left-to-right shunts, polycythaemia ☐ low: everything else.
- **Treatment of pneumonia is:**
  - CURB 0-1:** Home treatment (Amoxicillin).
  - CURB 2:** In patient amoxicillin and clarithromycin.
  - CURB 3 -5:** ICU: IV co-amoxic plus clarithromycin.
  - Staph aureus:** Flucloxacillin
  - Atypical pneumonia:** Macrolides.
  - Aspiration pneumonia:** Clindamycin.
- Asbestosis causes pulmonary fibrosis predominantly affecting the lower zones
- **Sarcoidosis CXR**
  - Stage 1 = BHL, stage 2 = BHL + infiltrates stage 3 = infiltrates stage 4 = Fibrosis
- Adult with asthma not controlled by a SABA - add a low-dose ICS
- Unmasking of Churg-Strauss syndrome  $\rightarrow$  Montelukast Leukotriene receptor antagonists may trigger eosinophilic granulomatosis with polyangiitis (Churg-Strauss syndrome)
- Over rapid aspiration/drainage of pneumothorax can result in re-expansion pulmonary oedema
- Saccharopolyspora rectivirgula causes farmer's lung, a type of EAA
- PTHrP is a paraneoplastic syndrome associated with squamous cell lung cancer
- Aspergillus clavatus causes malt workers' lung, a type of EAA
- Symptom control in non-CF bronchiectasis - inspiratory muscle training + postural drainage
- COPD - LTOT if 2 measurements of  $\text{pO}_2 < 7.3 \text{ kPa}$
- Alpha-1 antitrypsin deficiency - autosomal recessive / co-dominant
- Isocyanates are the most common cause of occupational asthma
- Confusion in an asthma attack is a life-threatening feature
- Bupropion: contraindicated in epilepsy
- Upper zones lung fibrosis is seen in hypersensitivity pneumonitis
- NICE only recommend giving oral antibiotics in an acute exacerbation of COPD in the presence of purulent sputum or clinical signs of pneumonia
- COPD is the most common cause of secondary pneumothorax
- Management of high altitude cerebral edema (HACE) is with descent + dexamethasone
- Small cell lung carcinoma secreting ACTH can cause Cushing's syndrome
- Lung volume reduction surgery can be used in the treatment of alpha-1 antitrypsin deficiency



- COPD - reason for using inhaled corticosteroids - reduced exacerbations
- Chlamydia psittaci is a cause of pneumonia in bird keepers
- A normal pCO<sub>2</sub> in a patient with acute severe asthma is an indicator that the attack may be life-threatening
- Serial peak flow measurements at work and at home are used to detect occupational asthma
- Pulmonary arterial hypertension is defined as an elevated pulmonary arterial pressure greater than 25mmHg at rest or 30mmHg after exercise
- Erythema nodosum is associated with a good prognosis in sarcoidosis
- Polysomnography is diagnostic for obstructive sleep apnoea.
- Recurrent chest infections + subfertility - think primary ciliary dyskinesia syndrome (Kartagener's syndrome).
- Severe cough, fever with rigors and chills sweating, weight loss and clubbing, there is also foul smelling sputum → lung abscess.
- Indications of steroids in hypercalcaemia is → Uveitis, heart, CNS and renal involvement.
- Early morning raised CO<sub>2</sub> is → central apnea syndrome
- Churg-Strauss syndrome - positive pANCA serology
- Contraindications to lung cancer surgery include SVC obstruction, FEV<sub>1</sub> < 1.5, MALIGNANT pleural effusion, and vocal cord paralysis
- Squamous cell: PTHrP, clubbing, HPOA, small cell: ADH, ACTH, Lambert-Eaton syndrome
- COPD - still breathless despite using SABA/SAMA and no asthma/steroid responsive features → add a LABA + LAMA
- The triangle of safety for chest drain insertion involves the base of the axilla, lateral edge pectoralis major, 5th intercostal space and the anterior border of latissimus dorsi
- Sleep apnoea causes include obesity and macroglossia
- Vital capacity - maximum volume of air that can be expired after a maximal inspiration
- The majority of patients with sarcoidosis get better without treatment
- Lower zones lung fibrosis: amiodarone
- Pott's disease (spinal TB) is an important differential in the setting of chronic back pain, fevers and old TB
- Indications for corticosteroid treatment for sarcoidosis are: parenchymal lung disease, uveitis, hypercalcaemia and neurological or cardiac involvement
- Lower zones lung fibrosis: methotrexate
- NIV (BiPAP) is indicated in respiratory acidosis or rising PaCO<sub>2</sub> resistant to best medical management during an acute exacerbation of COPD
- Klebsiella most commonly causes a cavitating pneumonia in the upper lobes, mainly in diabetics and alcoholics.
- Before starting azithromycin do an ECG (to rule out prolonged QT interval) and baseline liver function tests.
- 30 year of exposure to asbestosis (ship yard worker), admitted with progressive shortness of breath pleural effusion and clubbing what is your diagnosis → Mesothelioma.
- Treatment of recurrent pulmonary embolism is → inferior vena caval filter.
- 25 year old patient was living in hostel presented with cutaneous manifestations typical of erythema multiforme, hemolytic anemia and bilateral consolidation on CXR is consistent with → Mycoplasma pneumonia infection.
- Treatment of legionella is → Macrolides and associated hyponatremia is treated with normal saline.
- **Erythema nodosum** is associated with good prognosis in → sarcoidosis.
- The oxygen flow rate for the patient who is critically ill (anaphylactic shock) should be at 15 L/minute



## Multiple choice questions:

- Young patient presented with bulbous finger tips, which initial investigation will you perform?
- MRI chest
  - CT chest
  - CXR
  - PFTs
- ANS: B

- A patient with polyarthritis developed pleural effusion. What investigation will be more useful?
- Pleural fluid LDH
  - Pleural fluid glucose
  - Pleural fluid cytology
  - Pleural fluid gram staining
- ANS: B
- A patient is on ATT, become pregnant what will you do next?
- Stop ATT
  - Stop PZA
  - Stop INH
  - Continue with first line ATT
- ANS: B



Tuberculosis in pregnancy is usually treated with isoniazid, rifampin, and ethambutol for 2 months, followed by isoniazid and rifampin for an additional 7 months. Ethambutol can be stopped after the first month if isoniazid and rifampin susceptibility is confirmed. Since the risk of teratogenicity with pyrazinamide has not been clearly defined, pyrazinamide should be used only if resistance to other drugs is documented and susceptibility to pyrazinamide is likely. Streptomycin is contraindicated in pregnancy because it may cause congenital deafness. Pregnant women taking isoniazid should receive pyridoxine (vitamin B<sub>6</sub>), 10–25 mg orally once a day, to prevent peripheral neuropathy.

- Patient is on ATT developed jaundice and deranged LFTs which drug is to start first after normalization of LFTs.
- INH
  - PZA
  - Rifampicin
  - Streptomycin
- ANS: A

UpToDate

Pyrazinamide is not absolutely necessary as part of a first-line regimen for active TB. Detailed teratogenicity data are not available for this agent, so it is often excluded from TB treatment for pregnant women in the United States [11,40]. Nonetheless, pyrazinamide is recommended by the World Health Organization as part of a standard regimen for treatment of TB in pregnant women [42,43], and this practice is gaining acceptance in the United States; the 2016 American Thoracic Society/Centers for

- A 50 year old smoker presented with cough and right sided perihilar mass . There is right sided pleural effusion and right hemidiaphragm is raised . What investigation is most appropriate ?

- a. CT chest
- b. CXR
- c. HRCT
- d. Transbronchial biopsy

ANS: D

- Most common cause of primary spontaneous pneumothorax is?

- a. Tuberculosis
- b. Emphysema
- c. Asthma
- d. Chronic bronchitis
- e. Rupture of sub-pleural bleb

ANS: E

- An obese male underwent abdominal surgery and with in 48 hours he developed tachycardia , cough and shortness of breath what is the most likely cause ?

- a. Atelectasis
- b. Pneumonia

ANS: A

With in 48 hours → atelectasis , after 48 hours → pneumonia

- Ship yard worker presented with SOB and dry cough . On examination you find lower lobe fine basal crepts not altered with coughing . what is your diagnosis ?

- a. ABPA
- b. Asbestosis
- c. COPD
- d. Astma
- e. Bronchiectasis

ANS: B

- Regarding CO<sub>2</sub> narcosis which of the following is true?

- a. Oxygen inhalation worsens it
- b. It is most commonly related to pneumonia
- c. It can lead to metabolic acidosis
- d. None of the above

ANS: A

- An HIV patient came to your clinic with complaints of fever cough and shortness of breath. He is having oral candidiasis. CXR shows bilateral infiltrates. What is your diagnosis?

- a. Histoplasmosis
- b. PCP pneumonia
- c. ABPA
- d. Mycoplasma
- e. Legionella

ANS: B

- Smoker presented to you with shortness of breath.His CXR shows pleural effusion with raised hemidiaphragm, which of the following is the best test for the diagnosis?

- a. Bronchoscopy with biopsy
- b. HRCT
- c. CXR
- d. Mediastinoscopy



ANS: A

- > Succussion splash is seen in?
- Hydropneumothorax
  - Pyopneumothorax
  - Small pleural effusion
  - Lung abscess
  - Large pleural effusion

ANS: A

- > Middle aged lady presented to the emergency department with bilateral leg swelling. She tells that swelling has increased with the passage of time. CXR shows hyperinflated lungs and flat hemidiaphragm, ECHO shows enlarged right ventricle. What could be the reason?

- Cor pulmonale
- Recurrent thromboembolism
- Pneumonia
- MS

ANS: A.

- > In obstructive sleep apnea all are true except?

- Poor concentration
- Obesity
- Day time somnolence
- Impotence
- Hypertension

ANS: D

- > Which of the following parameter does not change in obstructive and restrictive lung disease?

- Tidal volume
- Residual volume
- FEV1
- PEFR
- Vital capacity

ANS: A

- > Which of the following lung cancer is most likely associated with cavitary lesion?

- Adenocarcinoma
- Squamous cell lung cancer
- Small cell lung cancer
- Large cell lung cancer

ANS: B

- > Most common cause of atelectasis is?

- Post surgery
- Foreign body
- Tumor
- Trauma

ANS: A

- > Young lad presented to opd with high grade fever and CXR shows patch of consolidation and air fluid level. What is your diagnosis?

- Tuberculosis
- Aspergilloma
- Lung abscess
- Empyema

e. Bronchogenic CA

ANS: C

➤ Pursing of lips in COPD patient helps in?

- a. Decrease flow of air
- b. Increase flow of air
- c. Prevent atelectasis
- d. Increase atmospheric pressure

ANS: C

➤ Which of the following finding is seen on chest Xray in patient who has developed lobar pneumonia?

- a. Loss of volume of lung
- b. Patchy fibrosis
- c. Absent lung markings
- d. Air bronchogram with non homogenous consolidation

ANS: D

➤ A worker in ship breaking factory presented with presenting complaints of dry cough and SOB on exertion. On examination he is clubbed and bilateral fine late inspiratory crackles at the bases of lungs, what will be your diagnosis?

- a. Siderosis
- b. Silicosis
- c. Sarcoidosis
- d. Asbestosis

ANS: D

➤ A 60 year old male patient presented with ptosis, anhidrosis and miosis, and hoarseness of voice, CXR shows erosions of the upper ribs. What is your diagnosis?

- a. Cervical rib
- b. Pancoast tumor
- c. Carotid artery dissection
- d. Thymoma
- e. Aortic dissection

ANS: B

➤ 75 year old male patient who is known smoker presented to the ER department with hemoptysis and cough, Labs shows hypercalcemia, CXR shows lobulated opacity in the hilar region which is well demarcated, what do you think he might have?

- a. Squamous cell cancer
- b. Small cell cancer
- c. Adenocarcinoma
- d. Carcinoid tumor

ANS: A

➤ In patient with ARDS the pathophysiological cause of edema is?

- a. Increase in hydrostatic pressure
- b. Increase oncotic pressure
- c. Decrease hydrostatic pressure
- d. Increase capillary leak
- e. Increase hydrostatic pressure

ANS: D

➤ Drug of choice for the aspiration pneumonia is?

#### Paraneoplastic syndromes

a. SIADH: Usually seen in small cell carcinoma (10% of SCLC patients)

b. Ectopic ACTH secretion: Small cell carcinoma

c. PTH-like hormone secretion: Most commonly squamous cell carcinoma

d. Hypertrophic pulmonary osteoarthropathy: Adenocarcinoma and squamous cell carcinoma—severe long-bone pain may be present

e. Eaton-Lambert syndrome: Most common in SCLC; clinical picture is similar to that of myasthenia gravis, with proximal muscle weakness/fatigability, diminished deep tendon reflexes, paresthesias (more common in lower extremities)



- a. Clindamycin
  - b. Metronidazole
  - c. Co-amoxiclav
  - d. Tetracycline
- AND: A

=====

# EMERGENCIES

- Patient after treatment for Acute severe asthma can be discharged when PEFR > 75% with in one hour of initial treatment.
- The function of steroids in management of asthma is to → Reduce inflammation.
- Consider a respiratory stimulant drug e.g doxapram in a patient who are not suitable for mechanical ventilation.
- Anaphylactic reaction is → IgE mediated and anaphylactoid reaction is not IgE mediated.
- Measure serum tryptase level with in 1 to 6 hour of suspected anaphylactic reaction.
- In right ventricular infarct (MI): Treat hypotension and oliguria by IV fluids (ST elevation in rV3 and rV4). Avoid nitrates and diuretics in right ventricular infarction. In RV infarct there is triad of raised JVP, clear lungs and hypotension.
- Inferior wall MI with hypotension suspect → right ventricular infarct.
- Indication of hemodialysis in salicylate poisoning?

Hemodialysis Indications include:

- Salicylate concentrations 100 mg/dL in acute toxicity
- Salicylate concentrations >80 mg/dL or rising despite treatment
- Salicylate concentrations 60 mg/dL in chronic toxicity
- Patients with pulmonary edema, cerebral edema, or seizures patients requiring intubation
- Patients who cannot receive large amounts of fluid and have potentially toxic ingestions.

## MULTIPLE CHOICE QUESTIONS

MCQ: When interpreting an ECG, right ventricular hypertrophy (RVH) can mimic which of the following conditions?

- a. LBBB
- b. AV block
- c. True posterior MI
- d. LAFB
- e. LPFB

ANS: C

- MCQ: Pesticide killer with garlic odour in mouth, horizontal lines on nails what is your diagnosis?

- a. Arsenic
- b. Mercury
- c. Parathion
- d. Selenium

ANS: A

- In severe methanol poisoning best treatment modality is ?

- a. Ethanol
- b. Fomepizol
- c. Hemodialysis
- d. Activated charcoal

ANS: C

- A student was bitten by black widow spider on arm. He is complaining of pain, burning sensation and nausea, with vomiting. What to do next?

- a. Penicillin
- b. Diazepam
- c. Calcium gluconate



d. Observe

ANS: C



Differences between Types of Spider Bites		
	Black widow	Brown recluse
Presentation	Abdominal pain, muscle pain	Local skin necrosis, bullae, and blebs
Lab test abnormalities	Hypocalcemia	None
Treatment	Calcium, antivenin	Debridement, steroids, dapsone

➤ A patient presented to ER with deep coma and shallow breathing . which of the following drug he has taken ?

- a. Paracetamol
- b. Acetaminophen
- c. Morphine
- d. NSAIDS

ANS: C

➤ Old female was advised ciprofloxacin, what are the adverse effects of ciprofloxacin in this patient ?

- a. Constipation
- b. Tendon rupture
- c. Visual symptoms
- d. No side effects

ANS: B

➤ A patient presented to ER with generalized weakness , he is diagnosed case of Bipolar disorder and was on medication which of the following electrolyte will you check ?

- a. NA
- b. K
- c. CA
- d. PO<sub>4</sub>

ANS: A

➤ Long term side effect of heparin is ?

- a. HIT
- b. Osteoporosis
- c. Dementia
- d. Hypokalemia

ANS: B

➤ Common complication of metformin in renal failure is ?

- a. Hypoglycemia
- b. Uremia
- c. Lactic acidosis
- d. DKA

ANS: C

- A middle age lady presents to you in clinic with jaundice, she was discharged from hospital 3 days back. Her LFTs report shows Albumin of 48 gm/L, bilirubini of 37 pmol/L ALT of 68 and ALP of 545 and GGT of 550. which of the following drug he has used?

- a. Co-amoxiclav
- b. Gentamycin
- c. Ciprofloxacin
- d. Trimethoprim

ANS: A

- A patient presented to emergency department with altered state of consciousness serum salicylate level is 100 mg/dl. What is the most appropriate management?

- a. Activated charcoal
- b. Intubation
- c. Alkalinization of urine
- d. Dialysis

ANS: D

- What is true regarding organo phosphorus poisoning?

- a. Treatment is with IV atropine
- b. Respiratory failure does not occur
- c. Causes mydriasis
- d. Chelating agents are first line

ANS: A

- An old female having organophosphorus poisoning developed psychosis and agitation after atropine injection. what will you do?

- a. Increase Atropine dose
- b. Pralidoxime
- c. Beta blockers
- d. Physostigmine

ANS: D

- 20 year old female comes to emergency department 8 hours after accidental ingestion of insecticides, best drug to be given is?

- a. Physostigmine
- b. Neostigmine
- c. Pralidoxime
- d. Atropine

ANS: D

- Most common side effects of tricyclic antidepressants is?

- a. Weight loss
- b. Diarrhea
- c. Anticholinergic

ANS: C

- Streptomycin poisoning leads to?

- a. Vestibular damage
- b. Cochlear damage
- c. Vestibulocochlear damage
- d. Conductive deafness

ANS: C

- Which of the following drug is least nephrotoxic?

- a. Clindamycin



- b. NSAIDS
- c. Doxycycline
- d. Gentamycin

ANS: A

> Patient presented with myxoedema coma which of the following life saving management should be given before waiting for laboratory results?

- a. IV T3
- b. IV hydrocortisone
- c. IV dextrose
- d. None of the above

ANS: B Hydrocortisone is given prior to thyroxine therapy to prevent adrenal insufficiency. Patients with primary hypothyroidism may have concomitant primary adrenal insufficiency, while patients with secondary hypothyroidism may have associated hypopituitarism and secondary adrenal insufficiency. The other rationale for treatment with corticosteroids is the potential risk of precipitating acute adrenal insufficiency caused by the accelerated metabolism of cortisol that follows T4 therapy. Stress doses of intravenous glucocorticoids should be administered until the possibility of adrenal insufficiency is excluded by a random serum cortisol, which is helpful only if very low, or, better, by an ACTH stimulation test.

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## SNAKE BITE

- Most common in Pakistan are Russel vipers also called chain viper.
- **ELAPIDES:** Types are cobra, king cobra, common krait, banded krait and coral. They are **NEUROTOXIC**, Their Fangs are grooved and can not bite through clothes or inject full dose of venom. **BITE SITE:** mild to no swelling at the site of bite. **Fatal period** is minute to hours. **Clinical features:** They cause nerve damage, ptosis, diplopia, muscle weakness and paralysis, phrenic nerve damage, diaphragmatic paralysis and respiratory failure.
- **VIPERS:** (vasculotoxic and hemotoxic). Types are russel vipers (common in Pakistan), saw scaled vipers and pit vipers. **HEMOTOXIC** (hemolysin and thromboplastin). their fangs are canalized like hypodermic needle they can bite through clothes and inject complete dose. **BITE SITE:** Marked local swelling pain, ecchymosis and bleeding at the wound site even blisters can appear. **FATAL PERIOD:** Few days. **Clinical features:** DIC, hemolysis, bleeding from external orifices, hypotension, intracranial bleed, internal bleeding, bleeding gums, and at venepuncture site, shock occurs in 30 minutes. most common cause of death is DIC.
- **HYDROPHIDAE:** (Sea snake). **MYOTOXIC**, their fangs are short and fixed and mostly they do not bite. **BITE SITE,** sharp prick initially and then they become painless. **FATAL PERIOD:** they are usually not fatal. only myalgia lasts for several months. **Clinical features:** muscle pain, myoglobinuria, rhabdomyolysis and renal failure.

### NOTE;

Cause of bleeding is → Proteolysin.

Cause of DIC is → Thromboplastin

Cause of tissue edema and cellulitis is → Hyaluronidase.

Cause of RBC hemolysis → Phospholipase A2.

### MANAGEMENT OF SNAKE BITE

#### General management:

Reassurance

Immobilization of bitten limb. Apply splint to immobilize,

And Do Not apply tourniquet, DO not incise the wound, and Do not suck the wound

#### Complete BLIS,

PT is used to monitor bleeding and if bed side test is asked then whole blood clotting time.

#### Tetanus prophylaxis

#### Indication of antivenom:

##### Systemic

Neurotoxicity (Ptosis, Nasal voice, broken neck sign)

Spontaneous systemic bleeding

Incoagulable blood (Whole blood clotting time > 20 mins)

Cardiovascular toxicity (Hypotension, Shock, arrhythmia)

##### Local:

Extensive swelling

Rapidly developing swelling

**NOTE:** ASV should be given IV and not by IM or at bite site.

ASV in Pakistan is polyvalent and covers Cobra, Krait, Russell's viper, Saw scaled viper.

**MCQ:** Patient bitten by snake. Then develops swelling and bleeding at the site of wound and then coma and death. Which is the snake.

A. Cobra



- B. Common krait
- C. Green snake
- D. Green pit viper
- E. Black mamba

ANS: D

Snake bite case brought in Eric with gum bleeding. Went to deep coma and died what is the cause of death.

- A. Respiratory failure
- B. Renal failure
- C. Intracranial hemorrhage
- D. Sepsis

ANS: C

Pt presented to ER who had hx of snake bite he was given anti venom but he developed bilateral leg swelling. Ultrasound Doppler showed sluggish blood flow what is most appropriate management?

- A. FFP
- B. FFPs with fasciotomy
- C. Plts transfusion
- D. Antibiotics

ANS: B

Which toxin cause DIC in snake bite

- a. Hyaluronidase
- b. Hemolysis
- c. Proteolysin
- d. Thromboplastin

ANS: D

Snake bitten poor man is now in ER what test will you do?

- a. Pt
- b. aptt
- c. BT
- d. Whole blood CT

ANS: D

# RANDOM POINTS

- In lactic acidosis serum lactate acid level is  $\rightarrow$  5mmol /L.
- Single best test for DVT is  $\rightarrow$  venography .
- Half life of CO is 5 to 6 hours at room temperature , and it can be reduced to 3 to 4 hours by 100% O<sub>2</sub> and 20 to 30 minutes by **hyperbaric O<sub>2</sub>**.
- Friedrichs ataxia is unusual amongst trinucleotide repeat syndromes that there is no phenomenon of anticipation.
- **Trinucleotide repeat syndromes**
  - Huntingtons disease  $\rightarrow$  CAG.
  - Fragile X syndrome  $\rightarrow$  CGG
  - Myotonic dystrophy  $\rightarrow$  CTG.
  - Friedrichs ataxia  $\rightarrow$  GAA .
- **Xlinked dominant disorders include**
  - Hypophosphatemic rickets
  - Fragile X syndrome
  - Alport syndrome.
- Most common cause of incidental hypercalcemia is  $\rightarrow$  Hyperparathyroidism.
- Commonest site involved in amyloidosis is  $\rightarrow$  kidney .
- Commonest site involved in Metastatic calcification are  $\rightarrow$  Lungs.
- High doses of aspirin more then 3gm/day has uricosuric effect , while low dose aspirin 1-2 gm /day has uric acid retention effect  $\rightarrow$  hyperurecemia .
- 12 year old kid with clubbing, murmur and olegrmic lung fields on CXR , what is your diagnosis  $\rightarrow$  TOF . **HINT** $\rightarrow$  whenever there are olegemic lung fields it means blood supply to the lung fields have been decreased i.e because of pulmonic stenosis (characteristic feature of TOF).
- Post MI PVCs what to be done  $\rightarrow$  Observe plus Beta blockers .
- Post MI VT  $\rightarrow$  Lignocaine if no signs of LVF , if there is left ventricular failure give  $\rightarrow$  Amoidarone
- More then three pvcs in consecutive line is  $\rightarrow$  VT
- Herpes simplex virus infection is more strongly associated with erythema multiforme.
- Thumbprint sign is seen in ischaemic colitis"
- "Mercedes Benz sign is sign is seen in radiopaque gall stones"
- "Double bubble sign s seen in duodenal atresia ,Single in pyloric and multiple bubble sign is seen in ileal jejunal atresia"
- **Persistently raised serum amylase** for greater then 7 days  $\rightarrow$  Pancreatic Pseudocyst.
- Mc cardle disease  $\rightarrow$  Intermittent Myoglobinuria .
- Which of the following is the diagnostic test used when ultrasound is equivocal for cholecystitis? $\rightarrow$  HIDA scan .
- Feeling lump in the throat without any difficulty in swallowing is  $\rightarrow$  **Globus hystericus**.
- Difference between GRAVES disease and toxic multinodular goiter on clinical examination  $\rightarrow$  Onycholysis.
- Most common cause of Esophagitis in HIV  $\rightarrow$  CANDIDIASIS
- Thymoma is associated with : red cell aplasia , dermatomyositis and myasthenia gravis.
- Most common cause of Colitis in HIV is  $\rightarrow$  C-difficile.
- Most common cause of Infective diarrhoea in HIV  $\rightarrow$  Cryptosporidium.



- Test used to confirm malabsorption → Fecal fat test
- Test to diagnose Zollinger Ellison syndrome is → serum gastrin level.
- Fecal fat test is positive if fecal fats are greater than 6 gm per 24 hours.
- D-xylose test is used to diagnose malabsorption due to → mucosal abnormality of intestine.
- Fecal elastase activity is used to diagnose → Pancreatic insufficiency.
- seHCAT test is used to diagnose bile acid malabsorption.
- Schilling test is used to diagnose → pernicious anemia.
- TTG antibodies is used to diagnose → celiac disease.
- 5HIAA is used to diagnose → carcinoid syndrome.
- Urinary tryptase is used to diagnose → systemic mastocytosis.
- Treatment of choice of anemia in CRF is → EPO injection.
- A scenario of barium with first part of duodenum smooth after that floccular what is the diagnosis → normal finding. (the outline of barium shadow in first part of the duodenum is smooth because of the lack of mucosal folds, in the remainder of duodenum the plica circularis break up the lipid emulsion giving it floccular appearance).
- Splenectomy carries better prognosis for → Hereditary Spherocytosis.
- In giardiasis what will u see in stool → Both trophozoite and cysts.
- DC cardioversion is contraindicated in → Digoxin induced arrhythmias.
- Amiodarone induced hypothyroidism: amiodarone may be continued if desirable as in case of VT, so continue amiodarone and add thyroxine.
- Amiodarone induce thyrotoxicosis: stop amiodarone if amiodarone can not be withdrawn then total thyroidectomy should be considered.
- Extra-skeletal manifestation of osteomalacia → proximal myopathy.
- Pagets → increases urinary hydroxy proline.
- Barrett esophagus should undergo endoscopic surveillance → 2 yearly.
- Gold standard and Most specific test for DVT is → Contrast Venography.
- Most sensitive test for DVT is → Doppler or Duplex scan Reference (pass medicine)
- Most Sensitive Test for DIC is → FDP.
- Oral glucose load leads to greater release of insulin than IV glucose and this effect is mediated by → GLP1 analogue and this effect is known as incretin effect.
- Brucellosis effects → RES.
- Osteosarcoma: (osteomaTASUNBURSTCODMAN) → Involves metaphysis, sunburst appearance on XRAY, codman triangle.
- Giant cell tumor → Involves epiphysis, Soap bubble appearance on Xray. (Giant-BUBBLE).
- Haloperidol used for one year now patient has weird tongue movements → Tardive dyskinesia.
- Lung cancer plus cavitation → Squamous cell lung cancer.
- Adenocarcinoma of Lung is associated with → Gynecomastia, Thrombophlebitis, Endocarditis and hypercoagulability.
- Pulmonary embolism associated hypotension best management is → Thrombolysis.
- In hydropneumothorax → Succession splash is positive.
- Rheumatoid arthritis with obstructive lung pattern is associated with → Bronchiolitis obliterans.
- Smoking and silicosis → centrilobular emphysema.
- Alpha-1 antitrypsin deficiency leads to → Pan-Acinar Emphysema.
- Cystic fibrosis, COPD, Asthma, bronchiectasis and bronchiolitis obliterans shows → Obstructive pattern on spirometry.
- Pulmonary fibrosis without volume loss:
  - 1. Neurofibromatosis



- II. Tuberos sclerosis
- III. Lymphangiomatosis
- IV. Histiocytosis X
- Most common brain tumors are → Gliomas.
- MLF lesion ( intranuclear ophthalmoplegia ) → M5 → impaired ipsilateral adduction and contralateral nystigmus.
- Lewybody dementia → Visual hallucinations and exacerbated by taking → Neuroleptics .
- Carbon-monoxide poisoning can lead to → Secondary parkinsonism and chorioform movements.
- Menitriers disease is a type of → protein losing enteropathy.
- Hexagonal crystals are found in → cystinuria .
- Dyspnea → mitral stenosis
- Syncope and angina → aortic stenosis.
- Palpitations → Atrial fibrillations.
- Lethargy is almost always present in → Myelofibrosis
- Maximum reticulocyte response is seen on 7<sup>th</sup> to 10<sup>th</sup> day of iron replacement .
- Celiac disease is associated with → Carcinoma esophagous and Entopathy associated T cell lymphoma ( Ix → endoscopy and biopsy )
- **VIPOMA**
  - I. Stool osmolarity is equal to serum osmolarity
  - II. Achlorhydria
  - III. It is excluded when stool volume is less than 700 ml/24 hour .
- Villous adenoma → Hypokalemia .
- Faget sign is positive in → yellow fever.
- Hypertention with Flash pulmonary edema ( Perihilar shadowing ( batwing sign and upper lobe diversion on CXR ) look for → renal artery stenosis and fibromuscular dysplasia .
- Verapamil is not used in VT as it can lead to → Ventricular fibrillation.
- **Coartation of aorta :**
  - Radiofemoral delay
  - Midsystolic murmur maximum over the back
  - Apical click
  - And upper limb BP is greater than lower limb bp.
- Digoxin prolong PR interval and decreases QT interval.
- In hypothermia there is → j wave on ECG.
- Bioprosthetic valve → only 3 months warfarin and aspirin after 3 months → only aspirin.
- Mechanical valves → aspirin and warfarin.
- MVP → Apical click and Late systolic murmur.
- Eruptive xanthomas → Found on Extensor surfaces and Lipoproteinlipase deficiency .
- Severe mitral stenosis → Murmur length increases and opening snap become closer to S<sub>2</sub>.
- In HOCM intensity of ejection systolic murmur increases with valsalva manuvre and decreases with squatting.
- Hypertensive patient on lithium antihypertensive of choice is → amlodipine.
- Ciclosporine is → nonmyelotoxic.
- Bupropion → contraindicated in → epilepsy.
- In alcohol poisoning Disulfiram is contraindicated in → Psychosis and Ischemic heart disease
- Acamprosate reduces → Alcohol craving .
- Varenicline → suicidal potential .
- Low dose aspirin leads to hyperurecemia and high dose aspirin leads to hypouricemia due to uricosuric effect.



- Hypokalemic periodic paralysis and type 2 hyperlipidemia are Autosomal dominant.
- Short 4<sup>th</sup> metacarpal → Turner syndrome and Pseudo-hypoparathyroidism.
- Cystinuria treatment is → penicillamine and urine alkalinization.
- Homocystinuria → Low IQ (Mental retardation) and lens dislocation.
- Marfan syndrome → Normal IQ and lens dislocation.

**Marfan** has → superotemporal lens dislocation and in **Homocystinuria** → Inferonasal lens dislocation. In **homocystinuria** there is Low IQ. In **Marfan** there is high IQ compared to **Homocystinuria**. In **Marfan** every thing is high. In **homocystinuria** everything is high except lens and IQ.

- Most Specific Test for DIC is → D-Dimers.
- Mesalazine → oligospermia.
- Achalasia → air fluid level on CXR.
- In hereditary angioedema there is no response to steroids as it is not Allergic reaction Rx include Fresh frozen plasma and or C1 esterase inhibitor concentrate.
- Avoid dipyridamole and adenosine in asthmatics.
- Patient with carcinoid syndrome also develop Niacin deficiency → pellagra.
- In gout → stop aspirin, niacin and thiazide diuretics.
- Best antihypertensive in GOUT is → Losartan.
- HSP leads to → leukocytoclastic vasculitis on biopsy.
- In ABPA oral steroids are given as inhaled steroids does not work and second line is → itraconazole.
- Cluster head ache → Acute treatment 100% oxygen and triptans. prophylaxis → Verapamil and Prednisolone.
- **Urine anion gap** is used to differentiate between RTA and Diarrhea. RTA → positive UAG and diarrhea negative UAG
- **Melanoma** can metastasize to brain.
- Thyroid acropathy is associated with → graves disease
- To assess severity of DIC we do serum fibrinogen level.
- One unit of cryoprecipitate will increase serum fibrinogen by → 8mg/dl.
- One unit of platelets can increase platelets upto..5000 to 10000.
- One Apheresis unit which contains 6 units of pooled platelets raise platelets count by 30,000.
- Test used to differentiate celiac from pancreatic diarrhea is → D-xylose test.
- **MCQ: A patient presented with shortness of breath, widespread wheezing on chest auscultation, CXR shows bilateral fluffy shadows, serum IgE level is greater than 1200 iu/ml. what is your diagnosis?**
  - a. Hyper eosinophilic pneumonia
  - b. Allergic asthma
  - c. ABPA
  - d. CSS

**ANS: C** serum IgE level greater than 1000 and presence of IgG precipitants against aspergillosis makes the diagnosis of ABPA.

- Primary biliary cirrhosis (**rule of M**): IgM, Middle age and AMA.
- For PSC we do → ERCP.

➤ **MCQ: Most serious medical emergency in UC is:**

- a. Bleeding per rectum
- b. Toxic megacolon
- c. Colorectal cancer
- d. PSC

**ANS: B**

- SBP is diagnosed on ASCITIC fluid R/E by looking at → Neutrophils.

➤ **MCQ: Recurrent duodenal ulcers are caused by :**

- a. H-pylori
- b. Islet cell tumors
- c. Lymphoma
- d. Pernicious anemia

**ANS: A** (Persistent H-pylori infection is the most common cause, ZES leads to multiple ulcers on uncommon location like distal duodenum).

- **A 40 year old woman is being investigated for chronic diarrhea and weight loss, malabsorption is suspected. which of the following test will make diagnosis of malabsorption?**

- a. Biopsy
- b. D-xylose test
- c. Fecal fat test
- d. Schilling test

**ANS: C**

- **MCQ: The most common nonskeletal manifestation of osteomalacia is**

- a. Hyperphosphatemia
- b. Hypoparathyroidism
- c. Proximal myopathy
- d. Hypercalcemia
- e. Nephrocalcinosis

**ANS: C**

- Most prominent feature of staph aureus poisoning is → vomiting.
- Claw sign is seen in barium enema (intussusception) and reverse claw sign is seen in barium follow through.
- Most common anterior mediastinal tumor is thymoma and most common posterior mediastinal tumor is Neurogenic.

- **A 54 year old female presented with a 3 months hx of dysphagia affecting both food and liquids from the start, along with occasional symptoms of heart burn. Barium swallow shows lower 2/3 rd dilated esophagus. What is the most likely underlying Diagnosis?**

- A. Pharyngeal pouch
- B. Gastric adenocarcinoma
- C. Benign strictures
- D. Ca esophagus
- E. Achalasia

**ANS: E**

- 4% of patients with UC have PSC, and up to 90% of patients with PSC have UC.



➤ A 23 year old nurse is reviewed in occupational health following a needle stick injury from a man known to be a carrier of hepatitis B, which of the following will appear first during acute phase of hepatitis B infection :

- a. HBsAg
- b. HBeAg
- c. Anti-HBs Ab
- d. HbeAG
- e. HBcAg

ANS: A

➤ Graves ophthalmopathy is worsened by radioiodine treatment .

➤ In patient with suspected insulinoma next best investigation will be → supervised fasting .

➤ A 45 year old male with bitemporal hemianopia and spade like hands what is the best test to confirm diagnosis ?

- a. Early morning GH measurement
- b. Insulin tolerance test
- c. OGTT with growth hormone measurement
- d. Random insulin like growth factor

ANS C.

=====

# IMM PAPERS

Q1: A 30-year-old man with a history of recurrent generalized tonic-clonic seizures visits his psychiatrist to refill his prescriptions. He complains of recent diplopia and ataxia. His doctor thinks that these new symptoms are related to one of his medications. Which of these drugs is most likely responsible for these new symptoms?

- A- Acetazolamide
- B- Carbamazepine
- C- Clonazepam
- D- Ethosuximide
- E- Gabapentin

ANS B Out of this list of drugs, only carbamazepine can cause diplopia. Ataxia also is a common side effect of carbamazepine but it occurs with some other medications as well. Side effects of acetazolamide include renal calculi and metabolic acidosis. Clonazepam can cause drowsiness and behavioral abnormalities. Ethosuximide and gabapentin may lead to drowsiness and headache.

Q2: A 32-year-old man develops symptoms of wheezing, cough, and shortness of breath. He has bilateral expiratory wheezes, and the rest of the examination is normal. Further evaluation with pulmonary function tests reveals a reduced FEV1/FVC ratio that corrects with bronchodilators. Which of the following statements about a diagnosis of idiopathic asthma (also called nonatopic) is correct?

- A. Known antigenic stimulus
- B. Adult onset
- C. History of atopy
- D. Positive skin tests
- E. High immunoglobulin E (IgE) levels

ANS B 50 % of the asthmatics are non atopic . Bronchial secretions occur secondary to non immunologic stimulus such as infection , cold air , exercise ,and emotional upset .negative skin test to common inhalat allergens with normal serum igE level .it usually starts later in life.

Q3: Young male comes for routine examination there is harsh murmur at the left sternal edge with thrill ?

- A. Small VSD
- B. PDA
- C. ASD
- D. Coarctation of aorta

ANS: A Smaller the defect loud will be the murmur . Small vsd are at high risk of Endocarditis and large VSD are at high risk of Eisenminger syndrome .

Q4: A 30-year-old man is brought to the emergency department due to a worsening headache. The patient has had episodic right-sided head aches over the past 6 months. Thirty minutes ago, he began experiencing a right temporal headache while at rest, which gradually worsened to severe pain over the next several minutes. He also had nausea and an episode of vomiting. The patient is now somnolent and difficult to rouse. He has no other medical conditions and had a normal medical evaluation a year ago for military enlistment. Temperature is 37 c (98.6 F), blood pressure is 150/90 mm Hg. pulse is 64/min, and respirations are 14/min. The patient withdraws all extremities to painful stimuli, but left-



sided deep tendon reflexes are increased. There is no neck rigidity. Which of the following is the most likely underlying cause of this patient's current condition?

- A. Arteriovenous malformation
- B. Carotid artery atheroma
- C. Cerebral amyloid angiopathy
- D. Dural venous sinus thrombosis
- E. Hypertensive vasculopathy

ANS: A Very severe headache, loss of consciousness and vomiting (intracranial bleed).

Q5: Anticoagulant activity of warfarin is potentiated by:

- A. Ciprofloxacin

ANS: A.

#### P450 Inducers and P450 Inhibitors Memorabilia

##### P450 Inhibitors

Don't join this group it will make your spirit go down...

##### MECAFACTS.COM Group

Sodium valproate  
Isoniazid  
Cimetidine  
Ketoconazole  
Fluconazole  
Alcohol, binge drinking  
Chloramphenicol  
Erythromycin  
Sulfonamides  
Ciprofloxacin  
Omeprazole  
Metronidazole  
Grapefruit juice

##### P450 Inducers

CRAP GPS induce me to madness!!

Carbamazepines  
Rifampicin  
Alcohol (chronic)  
Phenytoin

Griseofulvin  
Phenobarbitone  
Sulphonylureas

Q6: After 6 weeks of prosthetic heart valve replacement person presented with infective endocarditis. What is the most likely cause?

- A. Staph aureus
- B. Staph epidermidis
- C. Viridians
- D. Fungal infection

ANS: B

Q7: The lead pipe appearance of colon is the classical barium enema finding is found in

- A. Chronic ulcerative colitis
- B. Crohn's disease
- C. Celiac disease
- D. Cystic fibrosis

ANS: A string sign in barium enema is seen in stenotic and non stenotic phase of Crohn's disease.

Q8: Which of the following investigation in Restless leg syndrome is more preferable to do?

- A. Serum ferritin

ANS: A Choice Of Treatment Is Dopamine Agonist Ropinirole.

Q9: In case of status epilepticus what is the initial management drug option?

Lorazepam > diazepam

Q10: In NAFLD which of the following drug can be tried?  
Metformin ANS.

Q11: A diabetic patient presented with CCF and fluid overload symptoms which of the following drug should be stopped?  
Pioglitazone ANS as it cause fluid retention

Q12: In diabetic Hypertensive patient with proteinurea what is the choice of antihypertensive?  
Ace inhibitors ANS

Q13: t-PA has no role in which of the following?  
NSTEMI ANS

Q14: A patient presented with STEMI and severe hypertension bp 210/110 what is the best management?

- A. IV nitroprusside
- B. Oral GTN
- C. Thrombolysis

ANS: A Thrombolysis is contraindication for thrombolysis.

Q15: All of the following are causes of chorea except?

- A. Pregnancy
- B. Polycythemia
- C. Carbamazepine
- D. MS
- E. SLE

ANS: D.

#### Causes of chorea:

- 1) Huntington's disease, Wilson's disease, Ataxic telangiectasia.
- 2) Rheumatic fever: Sydenham's chorea.
- 3) SLE, anti-phospholipid syndrome, vasculitis (PAN, Behcet's disease).
- 4) Drugs: oral contraceptive pill, L-dopa, antipsychotics.
- 5) Pregnancy: chorea gravidarum.
- 6) Thyrotoxicosis.
- 7) Neuro-acanthocytosis.
- 8) Polycythaemia rubra vera.
- 9) CO poisoning, cyanide, opiates, mercury.
- 10) Cerebrovascular disease.

**Tetrabenazine works as a VMAT-inhibitor (vesicular monoamine transporter-2), involved in transportation of monoamines. It is indicated for Huntington's chorea to reduce hyperkinetic movements.**

Q16 50 year known hypertensive patient with C/O deviation of tongue to right side and weakness of left side of body with loss of joint position of left side, what is problem?

- A. Medial medullary syndrome
- B. Medial pontine syndrome
- C. Dorsal mid brain syndrome
- D. Medial mid brain syndrome

ANS: A.



**Q17: Which of the following is not a part of Wallenberg syndrome?**

- A. Ipsilateral Horner's syndrome
- B. Ipsilateral loss of taste
- C. Contralateral impaired thermal sensation over the arm
- D. Contralateral atrophy of tongue.

**ANS: D** Wallenberg syndrome (**Lateral medullary syndrome**) can occur due to the occlusion of **posterior inferior cerebellar artery** or lateral medullary arteries. It presents with the following features:

**Ipsilateral features:**

1. Ataxia
2. Loss of pain, impaired sensation over half of face
3. Nausea, vertigo, nystagmus and diplopia
4. Horner's syndrome
5. Dysphagia, diminished gag reflex, vocal cord palsy
6. Loss of taste
7. Numbness of arm, leg or trunk

**Contralateral features:**

1. Impaired thermal and pain sensation over half of the body

Ipsilateral paralysis with atrophy of half of tongue and contralateral paralysis of arms and legs sparing face with impaired tactile and proprioceptive sensation occurs in medial medullary syndrome.

**Q18: Bilateral hilar lymph node and clear lung on CXR?**

Good prognosis of sarcoidosis as stage I.

**Q19: SLE most common antibody is ?**

ANA

**Q20: McArdle disease is a deficiency of ?**

Muscle phosphorylase **ANS**. This is an important substance needed to break down glycogen in your muscle cells. The condition causes fatigue and muscle pain during exercise. The disease can lead to dark urine.

**Q21: Anti A antibodies present, Anti B antibodies absent, Rhesus negative what is the blood group ?**

B-VE .

**Q22: Psoriasis xray of hand will show characteristic ?**

Pencil in cup deformity.

**Q23: joint aspiration shows positive birefringence Calcium pyrophosphate crystals What is the diagnosis ?**

Pseudogout

**Q24: New case of DM diagnosed having slightly raised Sugar what to do next ?**

Start with diet and exercise.

**Q26: A patient with Liver cirrhosis presented with bleeding and deranged Rfts urine Na 50**

**MEQ/L what is your diagnosis ?**

ATN (As HRS has urine Na <10meq/l)

**Q27: Person recently returned from westindies visit now has ascitis and prominent portal vein what is the culprit ?**

Schistosomiasis

**Q28: PRV important complication is**

Hepatic vein thrombosis (budd chiari syndrome)

- What is the first-line treatment for someone who is in severe hyperkalemia?

- Sodium bicarbonate
- Ventolin
- Calcium gluconate
- insulin and dextrose

ANS: C

- **Heerfordt's syndrome** : It is an acute presentation of sarcoidosis, which presents with fever, uveitis (red, painful eyes), bilateral swelling of the parotid and other salivary and lacrimal glands. Facial nerve palsy (LMNL) may be a feature, and other features of sarcoidosis may co-exist (e.g. skin lesions, pulmonary involvement). As it represents a form of neuro-sarcoidosis, other neurological features may be present (e.g. meningism, ophthalmoplegia and pupillary reflex dysfunction).

- Familial hypercholesterolemia manifestation → Tendon xanthoma.

- Which of the following joints are spared in Osteo-Arthritis?

- Base of thumb
- C1
- Hip joint
- Ankle

ANS: D.

**Explanation: Spared joints in RA**

- Thoracic and Lumbar Spine
- Sacroiliac Joints
- Finger DIP joints
- Toes IP joints.

- Which joints are not involved in RA?

- PIPS
- MCPS
- Ankle joint
- Atlantoaxial joint
- Lower back joint

ANS: E.

- **MCTD is characterized by high levels of RNP Antibodies** ANS

### DISTRIBUTION OF OSTEOARTHRITIS



#### • Joints spared

- Wrist
- Metacarpal-phalangeal (except thumb)
- Elbow
- Ankle

#### • Joints commonly involved

- knee
- hip
- foot
- hand
  - DIP (Heberden's Nodes)
  - PIP (Bouchard's Nodes)
  - First CMC (thumb)



## Autoantibodies

AUTOANTIBODY	ASSOCIATED DISORDER
Anti-postsynaptic ACh receptor	Myasthenia gravis
Anti-presynaptic voltage-gated calcium channel	Lambert-Eaton myasthenic syndrome
Anti- $\beta_2$ glycoprotein I	Antiphospholipid syndrome
Antinuclear (ANA)	Nonspecific screening antibody, often associated with SLE
Anticardiolipin, lupus anticoagulant	SLE, antiphospholipid syndrome
Anti-dsDNA, anti-Smith	SLE
Antihistone	Drug-induced lupus
Anti-U1 RNP (ribonucleoprotein)	Mixed connective tissue disease
Rheumatoid factor (IgM antibody against IgG Fc region), anti-CCP (more specific)	Rheumatoid arthritis
Anti-Ro/SSA, anti-La/SSB	Sjögren syndrome
Anti-Scl-70 (anti-DNA topoisomerase I)	Scleroderma (diffuse)
Anticentromere	Limited scleroderma (CREST syndrome)
Antisynthetase (eg, anti-Jo-1), anti-SRP, anti-helicase (anti-Mi-2)	Polymyositis, dermatomyositis
Antimitochondrial	1° biliary cholangitis
Anti-smooth muscle	Autoimmune hepatitis type I
MPO-ANCA/p-ANCA	Microscopic polyangiitis, eosinophilic granulomatosis with polyangiitis (Churg-Strauss syndrome), ulcerative colitis
PR3-ANCA/c-ANCA	Granulomatosis with polyangiitis (Wegener)
Anti-phospholipase A <sub>2</sub> receptor	1° membranous nephropathy
Anti-hemidesmosome	Bullous pemphigoid
Anti-desmoglein (anti-desmosome)	Pemphigus vulgaris
Antithyroglobulin, antithyroid peroxidase (antimicrosomal)	Hashimoto thyroiditis
Anti-TSH receptor	Graves disease
IgA anti-endomysial, IgA anti-tissue transglutaminase, IgA and IgG deamidated gliadin peptide	Celiac disease
Anti-glutamic acid decarboxylase, islet cell cytoplasmic antibodies	Type 1 diabetes mellitus
Antiparietal cell, anti-intrinsic factor	Pernicious anemia
Anti-glomerular basement membrane	Goodpasture syndrome

- Patient presented with syncope CXR shows straight left heart border:  
Mitral stenosis.



Fig. 37: Chest radiograph from a patient with severe MS is showing a typical straight left heart border, prominent pulmonary artery, large left atrium, right ventricular dilatation, and pulmonary hyperinflation.

- Pregnant women with chickenpox present within 24 hours of onset of the rash what to do?

Acyclovir ANS

**Explanation:** Management of chickenpox exposure to a pregnant woman:

- 1) If there is any doubt about the mother previously having chickenpox maternal blood should be checked for varicella antibodies (IgM & IgG).
  - 2) If the pregnant woman is not immune to varicella she should be given varicella zoster immunoglobulin (VZIG) as soon as possible. RCOG and Green book guidelines suggest VZIG is effective up to 10 days post exposure.
  - 3) Consensus guidelines suggest oral acyclovir should be given if pregnant women with chickenpox present within 24 hours of onset of the rash.
- Patient developed fever 2 days after abdominal surgery, he is having tachypnea and tachycardia with chest crackles: what is your diagnosis?
- a. Pulmonary infarction
  - b. Pneumonia
  - c. Atelectasis
  - d. Pneumonia
  - e. MI

Ans B

- **Explanation:** Post OP 1 to 2 days → Atelectasis common and Post OP after 2 days → Pneumonia is common.

- Diabetic patient HBA1C of 7.6 and Bp 130/95 what will you suspect on renal?
- Glomerulosclerosis ANS Nodular glomerulosclerosis (the Kimmelstiel-Wilson lesion) of diabetes mellitus

- The risk of TB reactivation is most pronounced in the first 3 months of treatment?

Infliximab (TNF inhibitor) ANS

- 6-year-old boy presents with fever, malaise, cough, running nose and conjunctivitis. His past medical history indicates that he did not receive any immunizations due to his parents' religious belief. On examination, his temperature is 102.7 F and there are white spots on a red base close to his second molar teeth. He also has non-pruritic, maculopapular rash on his face, behind his ears and spreading to his chest. What is the most likely diagnosis?

- a. Chicken pox
- b. Smallpox
- c. Measles
- d. German measles
- e. Mumps

ANS: C Koplik spots in the mouth are diagnostic of measles. They are white spots on a red base and found close to second molars.

- DC shock contraindication include?
- Digoxin ANS

Table 19: Indications for AF ablation

**Indications**

- Recent onset AF
- Prior peripheral embolism
- Persistent AF after treatment of underlying cause
- Rapid ventricular rate despite drugs
- Persistent symptoms related to AF after medical treatment

**Contraindications**

**Relative**

- AF > 1 year
- Left atrial size > 50 mm
- EF < 25%

**Absolute**

- Digitalis toxicity
- Underlying cause sick sinus syndrome



- A scenario of barium with first part of duodenum smooth after that floccular what is the diagnosis :  
Normal finding **ANS** (the outline of barium shadow in first part of the duodenum is smooth because of the lack of mucosal folds ,in the remainder of duodenum the plica circularis break up the lipid emulsion giving it floccular appearance ).
- **Meningitis with gram positive rods (listeria )** what treatment to give ?  
Below is the table how to do drug management of any meningitis

**BNF recommendations on antibiotics:**

Scenario	BNF recommendation
Initial empirical therapy aged < 3 months.	Cefotaxime IV + amoxicillin
Initial empirical therapy aged 3 months - 50 years.	<b>Cefotaxime IV</b>
Initial empirical therapy aged > 50 years	Cefotaxime IV + amoxicillin
Meningococcal meningitis	Benzylpenicillin IV or cefotaxime
Pneumococcal meningitis	Cefotaxime IV
Meningitis caused by <i>Haemophilus influenzae</i>	Cefotaxime IV
Meningitis caused by <i>Listeria</i>	Amoxicillin IV + gentamicin

If the patient has a history of immediate hypersensitivity reaction to penicillin or to cephalosporins the BNF recommends using chloramphenicol.

- **Atypical pneumonia common CXR findings** will be  
Bilateral patchy infiltrates **ANS**
- **Mountain biker** started to sudden feel funny movemnt on upper limb ,hyperreflexia decreased sensations, left eye smaller than right one  
Anterior cervical dislocation. **ANS** .Cervical myelopathy due to a disc herniation commonly manifests with difficulty in walking, Spastic weakness of upper limbs and hands, hyperreflexia, and patchy sensory loss due to mechanical disruption and vascular compromise of spinal cord pathways to the extremities. We report a rare manifestation of cervical myelopathy in a thirty-five year old woman with an acute cervical disc herniation in the form of Horner's syndrome.
- **Blatchford bleeding score (GBS)** is a screening tool to assess the likelihood that a person with an acute upper gastrointestinal bleeding (UGIB) will need to have medical intervention such as a blood transfusion or endoscopic intervention.
- **Ticlopidine side effect:** TTP aplastic anemia , agranulocytosis.
- Gold standard for the diagnosis of hiatal hernia is barium swallow and meal.
- Murmur heard over the back is coarctation of aorta

# IMM papers MCQS

- Diabetic patient develops HTN, and symptoms of intermittent claudication. Drug to be given :

- a. ACE inhibitors
- b. CCBs

ANS: A

- A 35 yr old woman having syncopal attack. Ejection systolic murmur and echo showed thickened interventricular septum. **Best treatment for her?**

- a. ICD
- b. Beta blockers

ANS: A

In HOCM best treatment is → implantable cardioverter defibrillator .  
Medical therapy includes : Amiodarone ,BBs ,CCBs like verapamil for symptoms Endocarditis prophylaxis .

**Drugs to avoid :** Nitrates , ACE-inhibitors and ionotropes (digoxin )

A man with typical chest pain came to hosp duration 2 hrs. What tests can be done after this 2 hr period that will help in diagnosis?

- a. Cardiac enzymes
- b. Echo
- c. ECG
- d. Trop t

ANS: C

- Pt presents with dyspnea, ECG shows AV dissociation and BP 110/80, HR - 48

- a. Serial ecg
- b. Electrophysiology
- c. Pacemaker
- d. Echo
- e. Holter

ANS: C

- BP in upper right arm 150/90 and left leg is 80/40 with mid ejection systolic murmur best heard at the back of the chest?

- a. Coarctation of aorta
- b. PDA

ANS: A.

- A young male presents with jerky pulse large prominent a wave In JVP ,ejection systolic murmur in left sternal base most , likely disease in this patient is?

- a. Pulled stenosis
- b. MS
- c. HOCM
- d. AR
- e. Aortic sclerosis

ANS: C.

- Patient presents with recurrent lightheadedness. chest x-ray and ecg were normal Holter monitoring was advised what will likely show?

- a. SVT
- b. Wencheback phenomena

ANS: A



- > A patient had asystole 4 mins before your arrival. CPR was started before you. On arrival what will you do?  
iv adrenaline 1mg ANS
- > Dose of adrenaline in CPR → 1mg every 3 to 5 min
- > Young boy presents with ECG that Shows RBBB and some ectopics. What disease is he suffering from?  
RV arrhythmogenic cardiomyopathy ANS

ECG changes	Frequency
1. Prolonged S-wave upstroke > 55 ms in V1-V3	90%-95% <sup>23,34</sup>
2. T waves inversion in precordial leads	82%-85% <sup>36</sup>
3. QRS widening in V1-3	25%-70% <sup>36,38</sup>
4. Epsilon wave	30% <sup>36</sup>
5. Right bundle branch block (RBBB)	18%-22% <sup>36,73</sup>
6. Paroxysmal episodes of ventricular tachycardia with a LBBB morphology	One of the most common findings

- > Main LAD 50%, RCA 70% stenosed, moderately severe symptomatic Aortic stenosis. Surgery of choice in this patient  
a. CABG + AVR  
b. CABG  
c. AVR  
ANS: A.
- > A 68 year old male has been suffering from a cough productive of green sputum and shortness of breath He is brought to A and E drowsy and confused. He is found to have a sodium of 115 mmol/L, normal renal function, with a plasma osmolality of 260 mOsm/kg and urine osmolality of 500 mOsm/kg and urinary sodium of 145 mmol/L. What is the most likely cause of the hyponatraemia?  
A. Fluid overload  
B. Hypothyroidism  
C. SIADH  
D. Addisons Disease  
E. ARF  
ANS: C.
- > Patient has Urine Creatinine to Plasma Creatinine Ratio 45. What is diagnosis?  
a. Pre renal failure  
b. Acute Tubular Necrosis  
ANS: A
- > Asthma patient, complain of severe dyspnea first step to do is ?  
a. PEFR  
b. ABGS  
ANS: A To stage PEFR is done and If drowsy then ABG May be done for intervention
- > Parkinsonism patient with increasing dystonia and labile blood pressure  
a. Replace metochlopramide  
b. Treat as multiple system atrophy  
ANS B
- > Fear, gripping nearby objects → temporal lobe epilepsy.
- > A patient in his last weeks of life become jaundiced. Autopsy - 3500 gm yellow greasy enlarged liver. Histopathology showed no necrosis. Likely cause of death  
a. Hemochromatosis

- b. Alcoholism
- c. Galactosemia

ANS: B

> Differentiating point between graves' disease and toxic multinodular goiter

- a. Myopathy
- b. Cardiomyopathy
- c. Onycholysis
- d. Tachycardia
- e. Tremors

ANS: C.

> Diagnosis of malabsorption gold standard test 72 hour fecal test

> Soldier with the history of prolonged march, presented to ER department with 105 °C now he is unconscious what is your diagnosis?

- a. Heat stroke
- b. Meningitis
- c. Cerebral malaria
- d. Pontine myelinolysis
- e. post Ictal phase

ANS: A

> Two days ago a woman delivered dead fetus, now drowsy, jaundiced, Hb low, Platelets Low, Peripheral film shows Fragmented RBCs, ALT slightly high, RFTs deranged, urinary proteins +ve, RBCs+, APTT normal, FDP mildly raised. What is diagnosis?

- a. TTP
- b. HUS
- c. DIC
- d. Sepsis
- e. PE

ANS: D

> Drug of choice in young female patient of RA is?

- a. Methotrexate
- b. Sulphasalazine
- c. Hydroxychloroquine
- d. Azathioprine
- e. Prednisolone

ANS: A

> Diabetic patient with history of proximal myopathy both in upper and lower limbs presented with upgoing plantars bilaterally what is your diagnosis?

- a. Amyotrophy
- b. Peripheral neuropathy
- c. Proximal myopathy
- d. Myositis
- e. Dermatomyositis

ANS: A

> A patient is suffering from tuberculosis and it is resistant to all first line drugs the duration of ATT in this patient will be?

- a. 06 months
- b. 09 months
- c. 12 months
- d. 18 months



e. 24 months

ANS: D

➤ 60 year old female with morning stiffness from one hour and fatigue .ESR was 70mm /1<sup>st</sup> hour .RA was positive and anti-ccp is negative .What is your diagnosis ?

- a. Seronegative RA
- b. PMR
- c. Chronic fatigue syndrome
- d. Osteoarthritis
- e. Fibromyalgia

ANS: B

➤ A lady with family history of joint pains , MCP and knee joints are swollen and there is evidence of chondrocalcinosis, Transferring saturation is 60 and serum ferritin is 450 , what investigation is needed to confirm disease in this patient ?

- a. HFE gene mutation
- b. Liver biopsy
- c. Joint aspiration
- d. MR
- e. CT scan

ANS: A

➤ 50 year old patient is diagnosed with Huntington disease what advice will you give?

- a. Genetic counseling
- b. Chromosomal analysis
- c. Psychologic advice
- d. Antidepressants
- e. Antipsychotics

ANS: A

➤ Patient presented with complain of SOB and Cough , his serum eosinophills is greater than 25 %CXR shows bilateral fluffy shadow test to confirm diagnosis ?

- a. IGE level
- b. Bronchoscopy with BAL
- c. CT chest
- d. Biopsy
- e. Cytology

ANS: D CSS. Biopsy may confirm vasculitis Blood vessel biopsy demonstrates extravascular eosinophils. Tissue biopsy demonstrates small-vessel vasculitis. Biopsy is the confirmatory test for establishing the diagnosis of small-vessel vasculitis. The site of biopsy is driven by the likelihood of a positive finding with the least risk of complication. Common sites of biopsy include the **sural nerve and the skin**. Severe involvement of the kidneys or lungs would indicate a need for aggressive therapy, and samples should be obtained from these organs if there is a question of their involvement .

➤ A nurse got needle stick injury infected with HIV what advice will you give her ?

- a. Zidovudine
- b. Lamivudine
- c. Zidovudine ,lamivudine tenofvir
- d. Tenofovir
- e. Suck back the blood

ANS: C

- > Young female from remote area presented with hyperthyroidism. She is non compliant to medications. what will you do?
- SURGERY
  - RAI
  - Carbimazole
  - PTU
  - Steroids

ANS: A

- > Ship yard worker presented with 3 months history of dry cough and SOB what is your diagnosis?

- Mesothelioma
- ILD
- Small cell lung cancer
- NSCL cancer
- Adenocarcinoma

ANS: A

- > 50 yr old with BP 130/95, HbA1c: 7.6, urine protein 750mg /24 hour. What is true in management?

- He does not need improvement in glycemic control
- He does not need antihypertensive treatment
- Cardiovascular risk is normal
- Less than 60% chance of getting overt nephropathy in 10 years
- Renal biopsy shows sclerosis.

ANS: E

- > Patient with numbness and of index finger and thumb, it improves when her hand drifts out of bed, what is your diagnosis?

- Median nerve compression.
- Ulnar nerve compression
- Thoracic out-let syndrome
- Lower brachial plexus involvement

ANS: A.

- > Diabetic patient with giddiness and occasional sweating?

- Peripheral neuropathy
- Autonomic neuropathy

ANS: B

- > Patient presented with Upper GI bleed. Endoscopy shows varices. there is no hepatomegaly.

Treatment to prevent recurrent bleed?

- Propranolol
- Band ligation
- Sclerotherapy.

ANS; B Band ligation for esophageal varices and sclerotherapy for stomach.

- > Lymphoma patient took developed herpes zoster of S1 and S2. took acyclovir but no response? what to give?

- IV acyclovir plus lamivudine
- Acyclovir plus steroids
- IV foscarnet
- Lamivudine

ANS: C.



Fecal calprotectin test is used to differentiate → inflammatory bowel disease from irritable bowel disease.

Sudan black stain differentiate → Myeloblast from lymphoblast.

Membranous glomerulonephritis → IgG and C3 subepithelial  
ESGN there are → IgM and C3 deposits.

Which one of the following indicate severity of DIC?

- a. Decrease platelets level.
- b. Dec fibrinogen level
- c. Inc FDPD
- d. Inc Aptt
- e. Increase Pt and aPtt

ANS: B

**Table 34: Differentiation between lymphoblast and myeloblast**

	<b>Lymphoblast</b>	<b>Myeloblast</b>
Cell size	Small or moderate	Moderate or large
Nuclear chromatin	Coarse	Fine
Nucleoli	1-2	2-5
Auer rods	-ve	+ve
Accompanying cells	Lymphocytes	Promyelo, myelos, metas and neutrophils
Myelo peroxidase	-ve	+ve
Sudan black B	-ve	+ve
PAS stain	Black positivity	-ve in blasts

H/o sore throat two weeks later glomerulonephritis, steroids given  
symptoms improve, urine protein +5.

- a. POST streptococcal GN
- b. Minimal change disease
- c. Membranous Nephropathy

ANS: B

A 59 year old male came with Hb 18.0 g/dl on three occasions. Which investigation should be done to differentiate primary with secondary Polycythemia.

- a. Hematocrit
- b. Total leucocyte count
- c. Red cell mass
- d. Reticulocyte count
- e. Erythropoietin levels

Differences between polycythemia vera and secondary polycythemia (Table 8.40)

Table 8.40: Differences between polycythemia vera and secondary polycythemia		
Feature	Polycythemia vera	Secondary polycythemia
1. Oxygen saturation	Normal	Low
2. EPO (erythropoietin) levels	Decreased	Increased
3. Blood counts		Normal
- Total white cell count	Increased	Normal
- Absolute basophil count	Increased	Normal
- Platelet count	Increased	Normal
4. Leukocyte alkaline phosphatase (LAP)	Raised	Normal
5. Vitamin B <sub>12</sub> levels	Increased	Erythroid hyperplasia
6. Bone marrow	Trilineage (panhyperplasia)	Absent
7. Splenomegaly	Present	

ANS: E. In order to differentiate absolute polycythemia from relative polycythemia do red cell mass.

> According to the recent guidelines indication of mechanical ventilation depends upon the:

- Vital Capacity
- ABGs
- Uncounsciousness
- Cyanosis

ANS: A. Common indications for mechanical ventilation include the following:

- Bradypnea or apnea with respiratory arrest.
- Acute lung injury and the acute respiratory distress syndrome
- Tachypnea (respiratory rate >30 breaths per minute)
- Vital capacity less than 15 mL/kg
- Minute ventilation greater than 10 L/min
- Arterial partial pressure of oxygen (PaO<sub>2</sub>) with a supplemental fraction of inspired oxygen (FI<sub>O2</sub>) of less than 55 mm Hg
- Alveolar-arterial gradient of oxygen tension (A-a DO<sub>2</sub>) with 100% oxygenation of greater than 450 mm Hg
- Clinical deterioration
- Respiratory muscle fatigue
- Obtundation or coma
- Hypotension
- Acute partial pressure of carbon dioxide (PaCO<sub>2</sub> greater than 50 mm Hg with an arterial pH less than 7.25
- Neuromuscular disease.

> Microalbuminuria

- 50
- 150
- 250
- 500
- 750



ANS: A

> Rare feature of freidrich ataxia?

- a. Diabetes mellitus
- b. Autosomal recessive
- c. Seizure
- d. Absent ankle reflexes
- e. Cardiomyopathy

ANS: C.

> A 70-year-old man is brought to the doctor having a sudden onset of severe lower back pain. Upon conducting a physical examination of the patient, severe kyphosis is revealed. An x-ray of the back shows a compression fracture in the lumbar area of a vertebral body. This is followed by marked thinning of the bones as well. Laboratory tests measuring serum calcium, alkaline phosphatase, phosphorus, and parathyroid hormone levels, all come back within the normal range. What is the most likely reason behind the bone changes in the patient?

- A- Osteitis fibrosa cystica
- B- Osteoporosis
- C- Osteopetrosis
- D- Osteomalacia

ANS: B The likely diagnosis for the patient is osteoporosis. This is a condition wherein the bones become fragile and have a higher risk of fracture. In a normal human being, the bone mass or density starts decreasing after 35 years of age. Lack of calcium, vitamin D, exercise, as well as genetics, can increase the risk of having osteoporosis. The diagnosis of osteoporosis can be confirmed by x-rays and tests for measuring bone density. Osteitis fibrosa cystica is a common complication of hyperparathyroidism. Serum calcium and parathyroid hormone should be high which is not the case in this patient.

- Young man who presents with chronic lower back pain radiating to his buttocks, and stiffness of insidious onset. Stiffness is usually worse in the morning more than 30 minutes and worse after periods of inactivity and improves with exercise. ESR raised and xray lumbosacral normal. What is your diagnosis?

- Ankylosing spondylitis
- Reiters syndrome
- RA
- Psoriatic arthritis

ANS: A Plain x-ray of the sacroiliac joints is the most useful investigation in establishing the diagnosis and monitoring, but changes may not be seen for many years after the onset of symptoms. Radiographs may be normal early in disease, later changes include:

Sacroilitis: sub-chondral erosions, sclerosis  
 Squaring of lumbar vertebrae  
 'Bamboo spine' (late & uncommon)  
 Syndesmophytes: due to ossification of outer fibers of annulus fibrosus  
 Chest x-ray: apical fibrosis

- Anion gap in DKA is greater than → 10. ANS

- Glucose greater 13.8mmol/l
- PH less than 7.3
- HCO<sub>3</sub> less than 18
- Ketonemia greater 3mmol/l or ++ urinary ketones.
- Anion gap greater 10.

- Hep b surface Ag +ve, Hbc +ve, Hbe Ag -ve, what will you do?

- Counselling
- Ribavarin
- Lamuvudine
- Ribavarin + Interferon

ANS: A

- Absolute Contraindication of fibro-optic Bronchoscopy

- Hypoxemia
- Unstable cardiovascular status
- Unstable neck
- Pain due to ankylosing spondylitis
- Coagulopathy

ANS: C

- Patient with polyarthritis, now developed pleural effusion, what will help in diagnosis?

- Pleural fluid protein
- Pleural fluid cell count
- Pleural fluid sugar levels
- pleural fluid Ldh

ANS: C

- Patient on ATT LFTS derranged. Which drug to start first after LFTS become normal

- INH
- Rifampicin
- PZA
- Ethambutol

ANS: A ATT induced jaundice and split regimen



Stop ATT is there is symptomatic jaundice and ALT  $\gg$  3 times upper limit of normal  
OR Asymptomatic jaundice and ALT is  $\gg$  5 times ULN

Start liver friendly Drugs

Ethambutol Streptomycin and Quinalones

When jaundice subsides and ALT is less than 2 times of ULN

**There are Two protocols**

Either start ATT Drugs directly at maximum dose

Or split regimen

Le Start INH on day 1

Gradually increase dose and reach max dose on day 4. On 8th day start Rifampicin and gradually increase Dose to maximum on day 11

Start pyrazinamide on 15th day and reach maximum dose on 18th day

> **Most common Comorbidities associated with IBD:**

- Autoimmune thyroiditis
- IHD

ANS: B. RA, AS, Polyneuropathy, DVT, Osteoporosis, Asthma, Colorectal CA, PSC, Coronary artery disease and autoimmune hepatitis are the recognized features of IBD.

> **Patient with PVC's and atrial fibrillation. What to give?**

- Amiodarone
- Flecainide
- Digoxin
- Esmolol

ANS: A

> **VDRL positive in asymptomatic man?**

- Blood TPHA
- HIV Screening
- CSF VDRL

ANS: B Causes of false positive Cardiolipin tests: Pregnancy, SLE, anti-phospholipid syndrome, TB, HIV, Leprosy, Malaria. In syphilis cardiolipin test becomes negative after treatment and Treponemal test TPHA remains positive for life time even after treatment

**Antiphospholipid antibody syndrome (APAS) can be diagnosed if:**

The patient has anticardiolipin antibodies, or lupus anticoagulant on two occasions, over a period of 12 weeks,

And either:

Has had a thrombus, or a history of recurrent < 10 week pregnancy loss, or one pregnancy loss > 10 weeks in gestation when other causes of pregnancy loss have been excluded.

> **A 20-year-old male presents in accident and emergency department with history of severe dyspnea. On examination, his pulse = 90/min, BP = 120/80, RR = 20/min. Temp AF; ABGs show pH = 7.04, PCO<sub>2</sub> = 22.5 kPa, pO<sub>2</sub> = 6 kPa, HCO<sub>3</sub> = 32, SpO<sub>2</sub> = 97%. The most appropriate diagnosis is**

- Acute type 1 Respiratory failure
- Acute type 2 Respiratory failure
- Chronic type 1 Respiratory failure
- Chronic type 2 Respiratory failure

ANS: D. As with rise in 10 mmHg of PCO<sub>2</sub> in chronic acidosis 3.5 meq/L HCO<sub>3</sub> rises as a compensation. **Note:** if in any scenario there is a negative base excess it means bicarbonate stores have been depleted



She recalls abt blood transfused immediately after pregnancy 5 years back

- a. TFTS
- b. Pituitary function tests
- c. MRI brain

ANS: B

Rule of endocrinology

localize radiologically.

➤ **Most common area of CA Colon?**

- a. Cecum
- b. Ascending colon
- c. Transverse colon
- d. Appendix
- e. Sigmoid colon

ANS: E

➤ **Feature of Acute UC**

- a. Sacroiliitis
- b. Ankylosing spondylitis
- c. Fatty liver

ANS: C



### 19.21 How to make a diagnosis of asthma

Compatible clinical history *plus* either/or:

- $FEV_1 \geq 15\%$  (and 200 mL) increase following administration of a bronchodilator/trial of corticosteroids
- $> 20\%$  diurnal variation on  $\geq 3$  days in a week for 2 weeks on PEF diary
- $FEV_1 \geq 15\%$  decrease after 6 mins of exercise

\*Global Initiative for Asthma (GINA) definition accepts an increase of 12%.



### 19.26 Indications for assisted ventilation in acute severe asthma

- Coma
- Respiratory arrest
- Deterioration of arterial blood gas tensions despite optimal therapy
  - $PaO_2 < 8$  kPa (60 mmHg) and falling
  - $PaCO_2 > 6$  kPa (45 mmHg) and rising
  - pH low and falling ( $H^+$  high and rising)
- Exhaustion, confusion, drowsiness

➤ **Which is the most serious medical emergency in UC?**

- a. Anemia
- b. PR bleed
- c. Extensive colitis
- d. Toxic megacolon
- e. Intestinal obstruction

ANS: D

➤ **In ARDS all are false except?**

- a. PCWP increases
- b. Normal  $paO_2$
- c.  $paO_2 : FiO_2 > 200$
- d. PAP may increase

ANS: D

ARDS criteria

- 1) Acute onset
  - 2) CXR bilateral infiltrates
  - 3) PCWP normal
  - 4)  $paO_2 : FiO_2 < 200$
- PAP will increase

➤ **Exercise induced Asthma, fall in  $FEV_1$  diagnostic after exercise?**

$>15\%$  ANS.



### 19.25 Immediate assessment of acute severe asthma

#### Acute severe asthma

- PEF 33–50% predicted ( $< 200$  L/min)
- Respiratory rate  $\geq 25$  breaths/min
- Heart rate  $\geq 110$  beats/min
- Inability to complete sentences in 1 breath

#### Life-threatening features

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• PEF <math>&lt; 33\%</math> predicted (<math>&lt; 100</math> L/min)</li> <li>• <math>SpO_2 &lt; 92\%</math> or <math>PaO_2 &lt; 8</math> kPa (60 mmHg) (especially if being treated with oxygen)</li> <li>• Normal or raised <math>PaCO_2</math></li> <li>• Silent chest</li> </ul> | <ul style="list-style-type: none"> <li>• Cyanosis</li> <li>• Feeble respiratory effort</li> <li>• Bradycardia or arrhythmias</li> <li>• Hypotension</li> <li>• Exhaustion</li> <li>• Confusion</li> <li>• Coma</li> </ul> |
|---|---|

#### Near-fatal asthma

- Raised  $PaCO_2$  and/or requiring mechanical ventilation with raised inflation pressures



- Regarding COPD, which of the following reduces mortality?

Smoking cessation. **ANS**

**Explanation:** Factors which may improve survival in patients with stable COPD:

1) **Smoking cessation** - the single most important intervention in patients who are still smoking.

2) **(LTOT)** Long term oxygen therapy in patients who fit criteria.

3) **Lung volume reduction surgery in selected patients:**

o If  $PCO_2 \geq 7.4$

o Severe limitation of exercise capacity despite maximal therapy.

o Predominant upper lobe emphysema.

o Persistent symptoms despite a period of pulmonary rehabilitation.

- **Copd patient, symptoms not controlled on SABA, his FEV1 is 55%, next management step:**

Add LABA. **ANS**

**Explanation:** Drug Management of COPD :

First give SABA if still breathless despite using salbutamol inhalers then look at FEV1

If  $FEV_1 > 50\%$  :>>> LABA or LAMA

If  $FEV_1 < 50\%$  :>>> (LABA + ICS) or LAMA

- **Scenario on legionella pneumonia, typical features in scenario, investigation u will do:**

Urinary antigen test for legionella **ANS**

#### Legionella :

History of foreign travel , water tanks , AC plants , hyponatremia , dry cough , and preceding FLU like illness will be given in the history .

#### Management of legionella :

**Macrolides** are appropriate first line therapy

e.g. Clarithromycin or

Erythromycin.

**Fluoroquinolones and doxycycline** are reasonable alternatives.

Treatment of hyponatremia with legionnaire's >>> Normal saline.

- **In Allergic bronchopulmonary aspergillosis what will you do for diagnosis ?**

Positive IgG precipitins to Aspergillus. **ANS**

Diagnostic criteria	Findings in the pre:
Major criteria	•
Bronchial asthma	+
Type I cutaneous hypersensitivity	-
Eosinophilia	+
Serum total IgE	-
Serum precipitins against Aspergillus	+
Specific IgE/IgG against Aspergillus	+
Fleeting pulmonary opacities	+
Central bronchiectasis	+
Minor criteria	•
Expectoration of sputum plugs	+

#### Investigation for ABPA:

- Eosinophilia, Raised IgE
- **Skin prick:** Positive Radioallergosorbent (RAST)
- Positive IgG precipitins to Aspergillus
- Fleeting CXR changes .bronchiectasis is characteristically proximal and involve upper lobes

- Patient with chest pain, positive Hamman's sign (on auscultation a click sound synchronous with heart sounds) was present:  
Left apical pneumothorax **ANS** The Hamman's sign is a loud precordial pulse synchronous sound, which is often postural. It is pathognomonic for left-sided pneumothorax or pneumomediastinum. Hamman's sign as a presenting symptom is rare, but if present is key to diagnosis.

- Lung volume reduction surgery is best in patients with;  
Predominant upper lobe emphysema. **ANS**.

**EXPLANATION;** Lung volume reduction surgery in selected patients:

- o If  $PCO_2 \geq 7.4$
  - o Severe limitation of exercise capacity despite maximal therapy.
  - o Predominant upper lobe emphysema.
  - o Persistent symptoms despite a period of pulmonary rehabilitation.
- Post DVT patient developed stroke, CXR = left heart enlarged?

- a. VSD
- b. PFO
- c. Pulmonary stenosis
- d. ASD

**ANS B>D**

- Risk factor for perioperative ischemia..

- a. Tachycardia
- b. Hypertension
- c. Isoflurane
- d. Opioids

**ANS: B**

- Patient presented with pancytopenia, high MCV and hepatosplenomegaly?

- a. Megaloblastic anaemia
- b. Myelodysplasia.

**ANS: B**

- Features of hyperthyroidism and reduced Radio iodine uptake Next management step:  
Paracetamol **ANS** (De- quervian thyroiditis).

- Elderly male with bronchogenic Carcinoma presented with headache, neck vein distension, flushed face (features of SVCO). Next step in management is ?  
Stenting. **ANS**

- Difference between SLE and MCTD is:

- a. Scleroderma
- b. Renal involvement
- c. Arthritis
- d. Myositis.

**ANS: A**

- A diabetic patient was given some antibiotic for his foot ulcer and later on he developed polydipsia and polyurea despite tight glycemic control. Drug responsible:

- a. Ofloxacin
- b. Piperacillin
- c. Nafcillin.

**ANS: A**

- A nurse who had received vaccination against hepatitis B, now has needle stick injury (pt was hep B positive). What will you give?



- a. Booster dose
- b. Active and passive immunization.
- c. Only passive
- d. Immunization
- e. Nothing.

ANS: A

> A young girl developed fits, on examination she was tachycardiac (pulse =140 /min) and there was a mass below the umbilicus. Diagnosis?

- a. Poisoning(TCA poisoning)
- b. CVA
- c. Brain tumor

ANS: A TCA poisoning > urinary retention > palpable bladder

> A patient presented with a small, painless papule, shallow ulcer on his genitalia and painful inguinal lymphadenopathy for last few days what is most likely Dx?

- a. Primary syphilis
- b. Secondary syphilis
- c. Lymphogranuloma Venereum
- d. Tertiary syphilis

ANS: C

> Acquired skin blistering disorder that are painful but non itchy associated with oral mucosa involvement is:

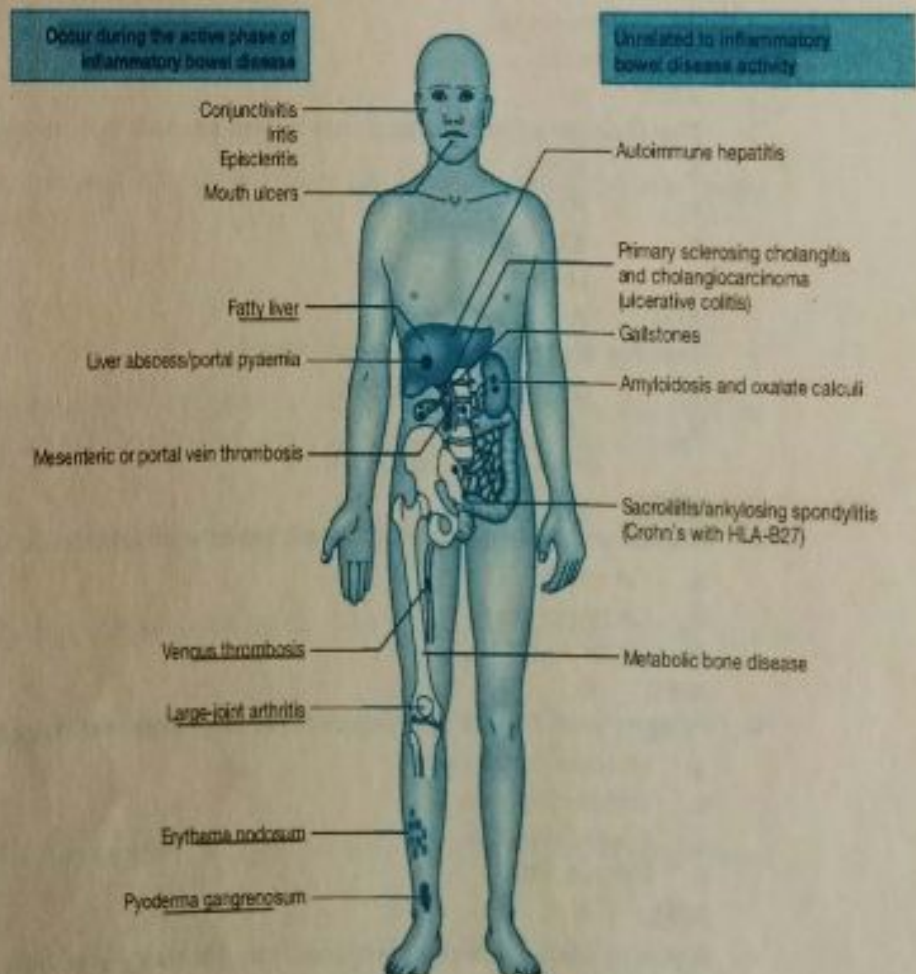
Phemphigous vulgarus ANSNote: in bullous pemphigoid there is itchy blisters with no mucosa invement.

Acute systemic complication of IBD ?

- a. Fatty liver
- b. Ankylosing spondolitis
- c. Sacrolitis
- d. Arthritis of medium size joint

ANS: A Acute systemic complications or complications related to disease activity are asymmetrical large joint arthritis, Erythema nodosum, episcleritis fatty liver, episcleritis and osteoporosis. complications not related to disease activity are symmetrical small joint polyarthritis, Uveitis, ankylosing spondylitis, and primary sclerosing polyangitis and autoimmune hepatitis.

#### ALIMENTARY TRACT AND PANCREATIC DISEASE



- which of the following is complication of active ulcerative colitis (related to disease activity)?

- Ankylosing spondylitis
- Large joint arthritis
- Autoimmune hepatitis
- Sacroiliitis

ANS: B

	Common to both Crohn's disease (CD) and Ulcerative colitis (UC)	Notes
Related to disease activity	Arthritis: pauciarticular, asymmetric Erythema nodosum Episcleritis Osteoporosis	Arthritis is the most common extra-intestinal feature in both CD and UC. Episcleritis is more common in CD.
Unrelated to disease activity	Arthritis: polyarticular, symmetric Uveitis Pyoderma gangrenosum Clubbing Primary sclerosing cholangitis	Primary sclerosing cholangitis is much more common in UC. Uveitis is more common in UC.

- Which of the following investigation is done for diagnosis of GERD?

- 24 hr PH monitoring
- Endoscopy
- LFT
- Ultrasound abdomen

ANS: A

- Regarding Gilbert syndrome which of the following is true

- It is type of conjugation defect
- Bilirubin level never raise more than 5 mg/dl

ANS: A

- The most serious complication of IBD?

- Toxic megacolon
- Arthritis
- Pancreatitis
- Hepatitis

ANS: A

- The marker of prognosis in acute and chronic liver disease is?

- APTT
- PT
- BT
- LFT

ANS: B

- Test for diagnosis of ZES syndrome?

- Serum Gastrin level
- LFT
- Ultrasound abdomen

ANS: A

- Migratory thrombophlebitis is a feature of which CA?

- CA colon
- CA pancreas
- CA breast

ANS: B

- Patient with DM, Hyperpigmentation of skin and hypogonadism what is most likely Diagnosis?

- Haemochromatosis
- Wilson disease
- Acute hepatitis
- Pancreatitis

ANS: A

- A young man presented with ascites, jaundice, he had previous history of venesection 2 to three times what is most likely Diagnosis?

**Table 1. Common Extraintestinal Manifestations of Ulcerative Colitis**

Arthritis (21%)	Erythema nodosum (3%)
Aphthous stomatitis (4%)	Ankylosing spondylitis (2%)
Primary sclerosing cholangitis (4%)	Pyoderma gangrenosum (2%)
Uveitis (4%)	Psoriasis (1%)

Adapted with permission from Vavricka SR, Brun L, Ballabeni P, et al. Frequency and risk factors for extraintestinal manifestations in the Swiss inflammatory bowel disease cohort. Am J Gastroenterol. 2011; 106(1):113.



- a. Hepatitis
- b. Hepatic vein thrombosis
- c. Acute PANCREATITIS

ANS: B

- 24 years old male admitted after profuse vomiting, he is alcoholic BP is 120/80 mmHg, Hb 11 g/dl, 24 hrs after ENDOSCOPY was done which was normal what is most likely Diagnosis?

- a. Mallary weiss Syndrome
- b. Cld
- c. Acute PANCREATITIS
- d. Peptic ulcers

ANS: C

- A patient presented with loose motion for last 2 days, sometimes mixed with blood which of the following investigation is to be done?

- a. Flexible sigmoidoscopy
- b. Colonoscopy
- c. Stool D/R

ANS: C

- A young medical student complaining of abdominal pain with bloating, stool D/R done there is no blood in stool what is most likely Diagnosis?

- a. IBD
- b. IBS
- c. Hepatitis

ANS: B

- Post transplant leukopenia is caused by which of the following drugs?

- a. Methotrexate
- b. Azathioprine
- c. Steroid
- d. Cyclophosphamide
- e. Valganciclovire

ANS: B

- A young lady in 2nd trimester of pregnancy presented with polyurea, polydipsia, fasting blood sugar 116, the most appropriate test for diagnosis is?

- a. Fasting blood glucose
- b. Random blood glucose
- c. Glucose tolerance test

ANS: C

- A patient who is known case of gout was prescribed ACE inhibitors and CCBs few months ago. Patient developed acute gouty arthritis soon after a binge of alcohol at a party. Cause of this attack was?

- a. Ace inhibitors
- b. CCBs
- c. Alcohol

ANS: C

- A 70 years Old female with incidental finding of hypercalcemia. She is Asymptomatic. What is most likely Cause?

- a. Multiple myeloma
- b. Parathyroid adenoma
- c. Hyperthyroidism

ANS: B

- A patient is suspected to have Pulmonary hypertension, which one of the following is the single most important test to confirm the diagnosis?

- a. Echo
- b. High resolution CT thorax

- c. Cardiac catheterization Pulmonary angiography
- d. Ventilation perfusion scanning

ANS: C

> Liver abscess, when will U/S features disappear?

- a. 1 month
- b. 2 months
- c. 6 month

ANS: C

> Known case of Crohn's disease now presenting with hematuria and pain in his lumbar region, what could be the cause of his pain and hematuria ?

- a. Hypoglycemia
- b. Hyperoxaluria
- c. Hypo oxaluria
- d. Hypochorhydria

ANS: B

> Patient presented to ER with deep coma and shallow breathing which of the following drugs he has taken ?

- a. Paracetamol
- b. Diazepam
- c. Morphine
- d. NSAIDS

ANS: C

> A nurse had needle prick injury from a Pt who is HBV positive what will you advise her ?

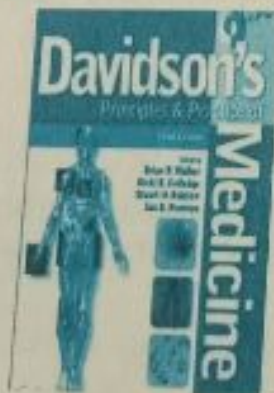
- a. Vaccinate as soon as possible
- b. Wash hands
- c. Vaccination + Immunoglobulin
- d. Do nothing

ANS: C

> Patient diagnosed as a case of low grade dysplasia associated with barret esophagus surveillance ENDOSCOPY will be done ?

- a. Every 2-3 year
- b. 3-6 months
- c. 6-12 months
- d. 1-2 yrs

ANS: C



surveillance strategies are unlikely to influence the overall mortality rate of oesophageal cancer. Surveillance is expensive and cost-effectiveness studies have been conflicting, but it is currently recommended that patients with CLO without dysplasia should undergo endoscopy at 3-5-yearly intervals and those with low-grade dysplasia at 6-12-monthly intervals.

For those with high-grade dysplasia (HGD) or intra-

> Which of the following set of lab results indicate active hepatitis B infection ?

- a. HBsAg -ve, HBsAb +ve, HBeAg -ve
- b. HBsAg +ve, HBsAb -ve, HBeAg +ve
- c. HBsAg -ve, HBsAb -ve, HBeAg -ve
- d. All of the above
- e. None of the above

ANS: B

> During CPR to maintain CNS flow what should be done?

- a. Lie patient on hard board
- b. Continuous chest compression



- c. Intubation
- d. Start I/ V fluid

ANS: A

> A known case of Ulcerative colitis now presenting with jaundice, pruritis, LFTs deranged, ERCP was done which shows strictures in intra and extra hepatic ducts. Which of the following is most likely diagnosis?

- a. PSC
- b. PBC
- c. Acute hepatitis
- d. Acute PANCREATITIS

ANS: A

> In a Patient with suspected insulinoma, which one of the following is considered the best investigation?

- a. Oral glucose tolerance test
- b. Insulin tolerance test
- c. Early morning C peptide level
- d. Glucagon stimulation test
- e. Supervised fasting

ANS: E

> A 45 years old female presented with tender neck swelling. labs showed Low TSH, T4 188 nmol/l, ESR 65, technetium thyroid scan shows decreased uptake globally, what is most likely Dx?

- a. Sick thyroid syndrome
- b. Bacterial thyroiditis
- c. Hashimoto's thyroiditis
- d. Subacute thyroiditis
- e. Toxic multinodular goitre

ANS: D

> A Patient presented with lethargy he is having normal BP, blood tests reveal Na 140 mmol/l, K = 2.6 mmol/l, Bicarb 33mmol/l, Which of the following conditions is most likely to be responsible?

- a. Cushing's syndrome
- b. Conn's syndrome
- c. 11-beta hydroxylase deficiency
- d. Bartter's syndrome
- e. Liddle's syndrome

ANS: D.

> Which one of the following is least likely to cause a warm autoimmune haemolytic anemia?

- a. Mycoplasma infection
- b. Methyldopa
- c. CLL
- d. Lymphoma
- e. SLE

ANS: A

> A 54 yr old woman who had hysterectomy presents for advice about hormone replacement therapy. Which one of the following would result from the use of a combined oestrogen progesterone preparation compared to an oestrogen only preparation?

- a. Decreased risk of venous thromboembolism
- b. Increased risk of a stroke
- c. Increased risk of breast cancer
- d. Increased risk of endometrial cancer

ANS:

C

The breast cancer incidence is higher in women using combined preparations

- compared to oestrogen-only preparations. And also COCP decreases incidence of endometrial cancer.
- Which of the following is most associated with thymomas?
- Myelodysplasia
  - Thrombocytopenia
  - AML
  - ALL
  - Red Cell aplasia
- ANS: E. Other associated conditions associated with thymoma are dermatomyositis and myasthenia gravis.
- True regarding prophylaxis for DVT?
- LMWH
  - warfarin
  - UF Heparin
  - Clopedogril
- ANS: A.
- In case of penicillin allergy what to give before tooth extraction in case of MI
- Clindamycin
  - Tetracycline
- ANS: A
- 50 year old with BP 130/95, HbA1c: 7.6, urine protein 750mg /24 hour.
- Which of the following is true ?
- He does not need improvement in glycemic control
  - He does not need antihypertensive treatment
  - Cardiovascular risk is normal
  - Less than 60% chance of getting overt nephropathy in 10 years
  - Renal biopsy shows sclerosis.
- ANS: E
- Diagnostic feature of mitral stenosis?
- Loud S2
  - Right ventricular hypertrophy
  - Tapping apex beat
  - Atrial fibrillation
  - Mid-diastolic Rumble
- ANS: E. There is loud S1, Mid-diastolic rumble, Opening snap and Presystolic Accentuation.
- The clinical feature that occurs both in aortic stenosis and aortic regurgitation is ?
- Angina
  - Laterally Displaced apex beat
  - Slow rising pulse
  - Pounding pulses
  - Pounding heart
- ANS: A
- Which of the following investigation provides best investigation of infective endocarditis?
- Echo
  - ECG
  - Roth spots
  - Splinter hemorrhages
  - Positive blood culture
- ANS: A
- Which of the following is most strongly associated with erythema multiforme?
- HSV
  - Sarcoidosis
  - Crohn's disease



d. Tuberculosis

ANS: A

➤ **Most common source of bleeding in case of liver cirrhosis is?**

- a. Esophageal varices
- b. Peptic ulcer
- c. Gastric erosions
- d. Poro-hypertensive Gastropathy
- e. Esophageal and gastric arteries

ANS: A

➤ **Regarding H-pylori ?**

- a. Associated with gastric ulcer
- b. Fecal antigen is accurate for diagnosis
- c. Rare associaton with gastric carcinoma
- d. Mostly found in greater curvature of stomach
- e. Acquired through blood transfusion

ANS: B

➤ **Treatment of choice for ulcerative colitis involving rectum and sigmoid colon is ?**

- a. Oral streroids
- b. Oral sulphasalazine
- c. topical steroids
- d. Topical mesalazine
- e. Symptomatic

ANS: D

➤ **Patient came with complain of heart failure proteinuria, decrease sexual function and hepatomegaly , what is likely diagnosis ?**

- a. Hemochromatosis
- b. Hemosidrosis
- c. Amyloidosis
- d. Nephritic syndrome

ANS: C

➤ **Most important clinical sign of hirshprung disease is ?**

- a. Empty rectum
- b. Barium enema shows dilatation
- c. Xray abdomen shows dilatation
- d. Constipation relieved by purgatives
- e. Abdominal distention

ANS: A

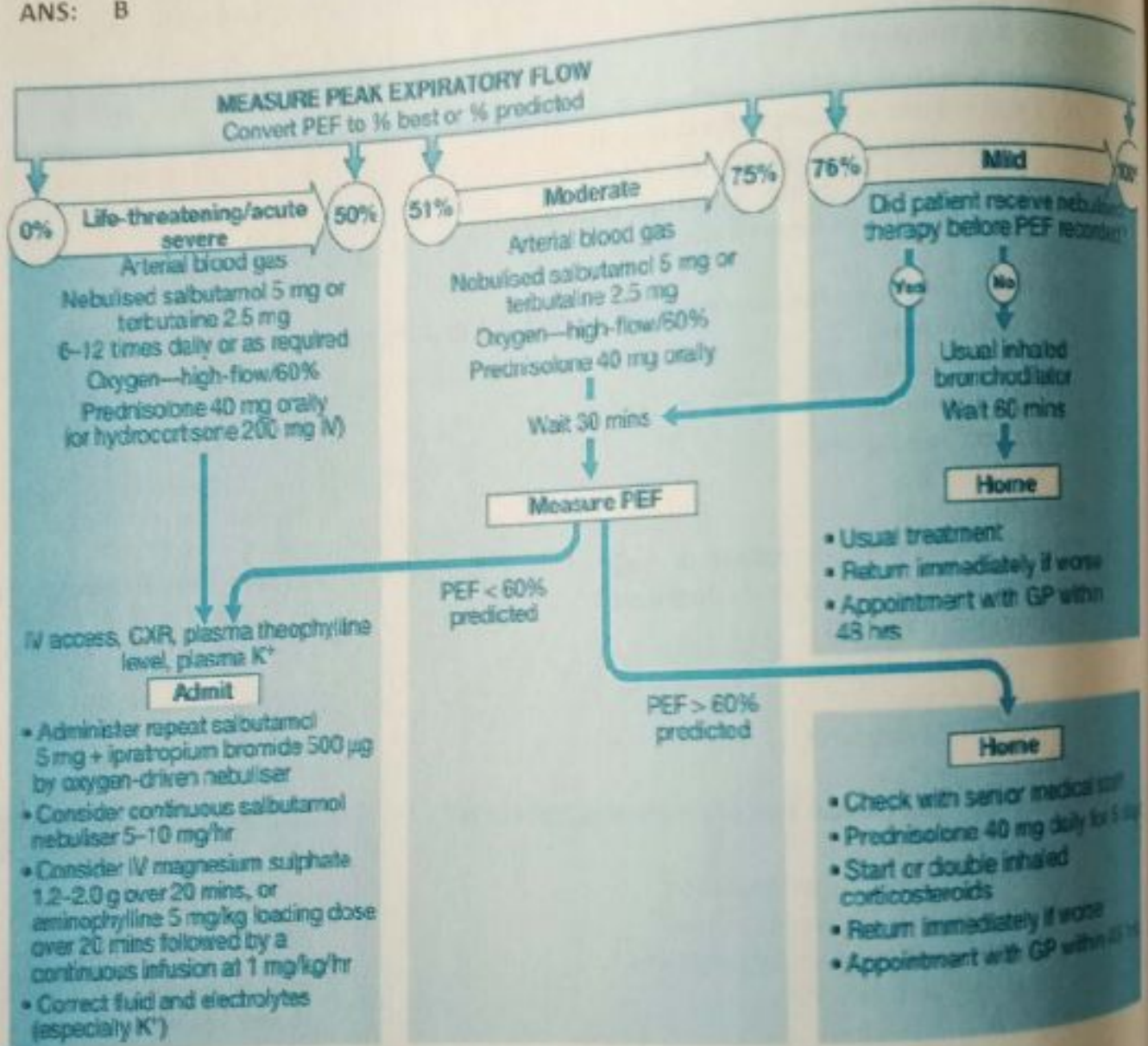
### Physical presentation

- Distended abdomen
- Inability to release flatus
- An empty rectum on digital rectal examination
- Rectal impaction
- Rapid expulsion of feces after rectal examination

- Which of the following treatment is mandatory in severe asthma ?

- IV salbutamol
- High flow oxygen
- IV steroids
- Theophylline
- Magnesium sulphate

ANS: B



- Clubbing is not a feature of ?

- Lung abscess
- Mesothelioma
- Bronchial carcinoma
- COPD
- Cystic fibrosis

ANS: D.

- Regarding the treatment of grade 2 esophageal varices :



- a. Propranolol
- b. Endoscopic sclerotherapy
- c. Terlipressin
- d. Band ligation
- e. TIPS

ANS: A For grade 2 esophageal varices we will select between band ligation and beta blockers depending upon the expertise and resources, but in case of Endoscopic red sign or bleeding choice of treatment is band ligation.. TIPS is indicated when band ligation fails and is never the first choice.

➤ **Regarding liver transplant :**

- a. Survival after 1 year is 80 %
- b. Left lobe is used for transplant
- c. Requires immunosuppressants as same as renal transplant
- d. Done in child stage B only
- e. Only done in acute flare

ANS: A

➤ **Regarding the treatment of tumor lysis syndrome ?**

- a. Fluids are required
- b. Start Allopurinol before the start of treatment
- c. Administer probenacid
- d. Cyclic therapy is required
- e. Surgery is an option

ANS: A

➤ **A five year old child presents with high grade fever for 5 days . on examination he is having conjunctival congestion , rash on chest and edema of hand and feet , appropriate treatment will be ?**

- a. Immunoglobulins plus aspirin
- b. Aspirin
- c. IV antibiotics
- d. Aspirin plus cyclosporine
- e. Immunoglobulins

ANS: A.

➤ **Regarding farmers lung :**

- a. Caused by immune response to animal protein
- b. Presents as asthma
- c. Spirometry shows obstructive pattern
- d. Treatment requires antibiotics
- e. Damage is irreversible

ANS: E

➤ **A patient was admitted via emergency and diagnosed as GBS . 12 hours after admission he develops SOB .what is the most appropriate investigation at this point ?**

- a. Xray chest
- b. ABGS
- c. Nerve conduction study
- d. CT chest
- e. MRI

ANS: B

➤ **Best statement regarding bronchial carcinoma is :**

- a. Superior sulcus tumor causes hornor syndrome
- b. Mediastinal invasion causes dyphagia
- c. Pleuritic pain occurs due to malignant invasion of pleura
- d. Mediastinal invasion causes bleeding
- e. Small cell cancer is most common

ANS: A

- A factory worker presented with recurrent SOB, Cough, Muroid sputum, his WBC is raised with Dec PaCO<sub>2</sub> and increase residual volume what is your diagnosis ?

- a. Emphysema
- b. COPD
- c. Chronic bronchitis

ANS: A

- A chronic smoker presented with recurrent SOB , cough , mucoid sputum, along with increase PaCO<sub>2</sub> and increase residual volume . what is your diagnosis ?

- a. Emphysema
- b. Bronchial asthma
- c. Chronic bronchitis
- d. Acute bronchitis

ANS: C



- a. "Pink puffers" (primarily emphysema) have mild hypoxemia and, because they maintain alveolar ventilation, normocapnia (normal Pco<sub>2</sub>).
- b. "Blue bloaters" (primarily bronchitis) have severe hypoxemia with cyanosis and, because they do not maintain alveolar ventilation, hypercapnia (increased Pco<sub>2</sub>). They have right ventricular failure and systemic edema.



➤ Most itchy lesion among the following is

- a. Pemphigous
- b. Pemphigoid
- c. Dermatitis herpatiformis
- d. Epidermolysis bullosa
- e. Linear igG disease

ANS: C

➤ Most common chronic blistering disorder is:

- a. Pemphigous
- b. Bullous pemphigoid
- c. Epidermolysis bullosa
- d. Bullous SLE
- e. Dermatitis herpatiformis

ANS: A

➤ Treatment failure should be suspected when patients sputum smear remains positive beyond?

- a. 2 months
- b. 4 months
- c. 5 months
- d. 3 months

ANS: C

➤ DOTS stands for ?

- a. Directly observed treatment supervised
- b. Directly observed treatment short course
- c. Directly observed treatment safe
- d. Directly observed treatment sure

ANS: B

➤ A patient presented with CRF and having anemia how will you treat the patient ?

- a. Oral iron
- b. Parenteral iron
- c. Iron and EPO
- d. Folic acid

ANS: C

Indication of IRON therapy in CKD:

- i. Ferritin level less than 500ng/ml and
- ii. Transferrin Saturation less than 20%

Indication of EPO therapy in CKD:

- i. HB less than 9 gm%
- ii. Transferring saturation greater than 20%
- iii. And serum ferritin greater than 500 ng/ml

➤ HIV transmission rate through breastfeeding is

- a. 20 %
- b. 30%
- c. 40%
- d. 50%

ANS: A. 0.5% per month i.e  $0.5 \times 24 = 12\%$

➤ Reversible cause of renal failure is ?

- a. ATN

- b. AIN
- c. FSGN
- d. PCKD

ANS: A

- Patient known case of CRF presented with HB of 6 gm % what will you do?
- a. Blood transfusion
  - b. Iron therapy
  - c. EPO
  - d. B12 and folic acid replacement?

ANS: A

- Most common presenting complaint of Primary billiary cirrhosis is ?
- a. Pruritis
  - b. Fatigue
  - c. Anemia
  - d. Headache

ANS: B

- Difference between obesity and cushing syndrome is ?
- a. Abdominal striae
  - b. Acanthosis nigricans
  - c. Moon face
  - d. Proximal myopathy

ANS: D

- A 34 year old patient with diagnosis of tropical sprue what should be normal ?
- a. D-xylose
  - b. Barium swallow
  - c. Barium follow through
  - d. Terminal ileum biopsy

ANS: B

- Young girl with erythematous tender nodules on lower limbs ,ASO Titer + ve what is it?
- a. Erythema nodosum
  - b. Erythema Marginatum
  - c. Erythema multiforme
  - d. None of the above

ANS: A

- Characteristic skin lesion associated with rheumatic fever is :
- a. Erythema nodosum
  - b. Erythema marginatum
  - c. Erythema induratum
  - d. Erthema ab igne

ANS: B

- Which drugs reduces complications of postherpetic neuralgia?
- a. Acyclovir
  - b. Pregabalin
  - c. Carbamezapine

ANS: A

- Known case of tuberculosis was started on ATT 2 months back now presented with bilateral ankle joint pain and arthralgia , what is your diagnosis ?
- a. INH induced SLE



b. Hyperurecemia

ANS: A

➤ A child bearing age female patient having history of hypertension, Her labs show metabolic alkalosis, Decrease K, it can be all of the following except?

- a. 21 Hydroxylase deficiency
- b. Cushing's syndrome.
- c. Liddle syndrome
- d. Conn's syndrome.
- e. High liquorice intake

ANS: A.

➤ A patient on dialysis due to CKD needs dental extraction. Under cover of what treatment should his tooth be extracted?

- a. FFPs
- b. Desmopressin
- c. Platelets
- d. Vit K

ANS: B

➤ Patient with hypermagnesemia best initial treatment is?

- a. IV hydration plus diuretics
- b. Diet restriction
- c. Insulin and diet restriction
- d. Diuretics

Ans: A

Management of hypermagnesemia includes calcium gluconate, iv hydration and diuretics.

➤ Serum creatinine decrease in pregnancy what is the mechanism?

- a. Increase in GFR
- b. Decrease in creatinine production

ANS: Glomerular filtration rate (GFR) increases by 50% early in pregnancy, leading to an increase in creatinine clearance and a 25% decrease in serum creatinine.

➤ Massive blood transfusion can lead to all except?

- a. Hypokalemia
- b. Hypocalcemia
- c. Coagulopathy
- d. Fluid overload

ANS: A

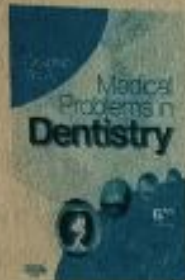
➤ Patient with chronic kidney disease has High calcium and high phosphate and high alkaline phosphatase what is your diagnosis?

- a. Primary hyperparathyroidism
- b. 2° hyperparathyroidism
- c. Tertiary hyperparathyroidism

ANS: C.

➤ Patient with history of chronic renal failure is having high calcium and phosphate and raised chloride concentration. What is your diagnosis?

- a. Primary hyperparathyroidism
- b. Secondary hyperparathyroidism
- c. Pseudohypoparathyroidism



#### DENTAL ASPECTS OF CHRONIC KIDNEY DISEASE

The haematologist should first be consulted; dental treatment is usually best carried out on the day after dialysis, when there has been maximal benefit from the dialysis and the effect of the heparin has worn off. Careful haemostasis should be ensured if surgical procedures are necessary (Ch. 8). Should bleeding be prolonged, desmopressin (DDAVP) may provide haemostasis for up to 4 h. If this fails, cryoprecipitate may be effective, has a peak effect at 4–12 h and lasts up to 26 h. Cryoprecipitated oestrogens may aid haemostasis; the effect takes 2–5 days to develop but is reversible for 40 days.



- d. Tertiary hyperparathyroidism  
e. Osteopetrosis

ANS: d

Parathyroid Hormone Level	Calcium Level	Phosphorus	Diagnosis	Cause
High	High	Low	Primary hyperparathyroidism	Oversecretion of parathyroid hormone
High	Low	High	Secondary hyperparathyroidism	Vitamin D deficiency
Very high	High	High	Tertiary hyperparathyroidism	Chronic renal failure

## 20.36 Causes of hypercalcaemia

### With normal or elevated PTH levels

- Primary or tertiary hyperparathyroidism
- Lithium-induced hyperparathyroidism
- Familial hypocalciuric hypercalcaemia

### With low PTH levels

- Malignancy (lung, breast, myeloma, renal, lymphoma, thyroid)
- Elevated  $1,25(\text{OH})_2$  vitamin D (vitamin D intoxication, sarcoidosis, HIV, other granulomatous disease)
- Thyrotoxicosis
- Paget's disease with immobilisation
- Milk-alkali syndrome
- Thiazide diuretics
- Glucocorticoid deficiency

If PTH levels are detectable or elevated in the presence of hypercalcaemia, then primary hyperparathyroidism is the most likely diagnosis. High plasma phosphate and alkaline phosphatase accompanied by renal impairment suggest tertiary hyperparathyroidism.

Hypercalcaemia may cause nephrocalcinosis and renal tubular impairment, resulting in hyperuricaemia and hyperchloraemia. Patients with FHH familial hypocalciuric hypercalcaemia can present with a similar biochemical picture to primary hyperparathyroidism but typically have low urinary calcium excretion (a ratio of urinary calcium clearance to creatinine clearance of  $< 0.01$ ). The diagnosis of FHH can be confirmed by screening family members for hypercalcaemia and/or a mutation in the gene encoding the calcium-sensing receptor. If PTH is low and no other cause is apparent, then malignancy with or without bony metastases is likely.

**PTH-related peptide**, which is often responsible for the hypercalcaemia associated with malignancy, is not detected by PTH assays, but can be measured by a specific assay (although this is not usually necessary). Unless the source is obvious, the patient should be screened for malignancy with a chest X-ray, myeloma screen and CT is appropriate.

- Patient has history of recurrent UTI now developed chronic pyelonephritis. what is the most likely cause?

- a. Reflux nephropathy

ANS: A

- Patient presented with hyperkalemia and ECG showed tall T waves? what is the best initial management?

- a. IV calcium gluconate  
b. IV insulin and dextrose  
c. Nebulization of beta 2 agonist  
d. IV insulin.

ANS: A

- Patient is diagnosed case of Wilson disease and he is already on penicillamine and Zinc. Replacement of which of the following is necessary?

- a. Pyridoxine (vitamin B6)  
b. Vitamin A  
c. Vitamin B1  
d. Vitamin B12



ANS: A Penicillamine should always be concomitantly administered with pyridoxine to prevent vitamin B6 deficiency, because penicillamine is notorious for the deficiency of vitamin B6.

➤ Patient presented with wound and upon investigation *pausturella multocida* was found. this wound is due to?

- a. Dog bite
- b. Human bite
- c. Snake bite
- d. Insect bite

ANS: A

➤ Earliest investigation of diabetic nephropathy is ?

- a. Urine R/E and microalbuminuria
- b. Serum urea
- c. Serum creatinine
- d. BUN

ANS: A Diabetic Nephropathy: stages

Stage 1:

Hyperfiltration: increase in GFR

May be reversible

Stage 2 (silent or latent phase):

Most patients do not develop microalbuminuria for 10 years

GFR remains elevated

Stage 3 (incipient nephropathy): Microalbuminuria (albumin excretion of 30 - 300 mg/day, dipstick negative)

Stage 4 (overt nephropathy):

Persistent proteinuria (albumin excretion > 300 mg/day, dipstick positive)

Hypertension is present in most patients

Histology shows diffuse glomerulosclerosis and focal glomerulosclerosis (Kimmelstiel-Wilson nodules) in Stage 4

Stage 5:

ESRD, GFR typically < 15ml/min

Renal replacement therapy needed.

➤ Most common type of anemia seen in CRF is?

- a. Iron deficiency anemia
- b. Normocytic normochromic anemia
- c. Anemia of chronic disease

ANS: B

➤ Hypercalcemia with low PTH is seen in ?

- a. Primary and tertiary hyperparathyroidism
- b. Multiple myeloma
- c. Lithium induced hyperparathyroidism
- d. Familial hypocalciuric hypercalcemia

ANS: B

➤ A 22-yearold university student was reviewed in the endocrine clinic with incidentally detected elevated calcium level of 2.7 mmol/L. PTH levels were high normal. There was a strong family history of hypercalcaemia. Based on the urinary calcium creatinine excretion of <0.01, a diagnosis of familial hypocalciuric hypercalcaemia (FHH) was confirmed. Which one of the following is a correct statement regarding FHH?



- a. Associated with nephrolithiasis
- b. Autosomal recessive inheritance
- c. PTH levels are usually low
- d. Results from activating mutation of calcium sensing receptor (CaSR)
- e. There is increased tubular calcium and magnesium reabsorption

**ANS: E** FHH is a benign condition, characterized by mild hypercalcaemia, and either high normal or slightly elevated PTH levels. It results from inactivation of the calcium sensing receptor gene (CaSR) and has an autosomal dominant inheritance with high penetrance. Urinary calcium excretion is typically low in this condition and calcium creatinine ratio is usually  $<0.01$ . The majority of patients do not have any symptoms/complications of hypercalcaemia due to the mild nature of it, although very rarely pancreatitis or chondrocalcinosis has been reported. It is important to differentiate this from 1° HPT as the management varies (FHH conservative). Parathyroidectomy is neither indicated nor curative in most cases of typical FHH.

➤ A 45-year-old dance instructor presented to the emergency department feeling generally unwell. She was concerned that she had not been able to work recently due to weakness. In the last two days, she had become short of breath. On examination, she was afebrile with a heart rate of 60 beats per minute and a BP of 130/80 mmHg. Her respiratory rate was 20 breaths per minute and oxygen saturation 98% on air. Her chest was clear. Cranial nerve examination was normal. Power in her upper limbs was 3/5 and 2/5 in her lower limbs for all movements. She was areflexic. What is the most appropriate monitoring test for predicting the need for ventilation?

- a. Forced expiratory volume in one second
- b. Forced vital capacity
- c. Oxygen saturation
- d. Peak expiratory flow rate
- e. Respiratory rate

**ANS: B** This is a typical presentation of acute inflammatory demyelinating polyradiculoneuropathy (AIDP), more commonly known by its eponym Guillain-Barré syndrome (GBS). It is an autoimmune disease of the peripheral nerves directed against unknown antigens triggered by a preceding infection. It occurs at any age but is more common in the elderly. Two-thirds of patients have had an identifiable infection during the preceding six weeks, which is most commonly respiratory, but if it is gastrointestinal (often due to *Campylobacter jejuni*), the prognosis is worse. The latency between infection and symptom onset is at least seven days, as this is the time taken for autoimmunity to develop. The presenting weakness may be proximal, distal, or both, and descending or ascending. The face and bulbar muscles are commonly affected, with the ocular motor nerves affected less frequently. Sensory loss is either in a distal ascending stocking and glove pattern or a dermatomal distribution. Miller-Fisher syndrome is a variant of Guillain-Barré syndrome characterized by the triad of ataxia, areflexia, and ophthalmoplegia and is associated with anti-GQ1b antibodies. There are also AIDP variants, which start with cranial nerve palsies and descending paralysis. Immediate management is initially directed towards life-threatening complications including respiratory failure, bulbar weakness, and cardiac arrhythmias. Respiratory failure is best monitored using bedside spirometry with serial forced vital capacity (FVC) measurements four times a day in the first instance. The normal value is approximately 4.5 L or 70 mL/kg. Should the records display a decremental pattern, then the frequency of testing should be increased to four hourly; should the FVC drop below 2 L, then recordings should be two-hourly and the case discussed with the ITU team; if the FVC drops below 1.5 L or 20 mL/kg, then the patient should have hourly FVCs and be managed in a high-dependency environment. Once the FVC drops below 1 L or less than 15



ml/kg, respiratory failure is impending and intubation with mechanical ventilation will be required. FEV1 and PEF have poor sensitivity as they may remain normal even in late stages of GBS. Tachypnoea, hypoxia, and hypercarbia are late signs and may not occur until respiratory failure is impending. Respiratory rate and oxygen saturations are, therefore, poor serial markers of lung function in this scenario. CSF studies should be performed to exclude infection and typically shows a raised protein level; however, this may be normal during the first week. The white cell count is normal; more than ten cells per microlitre should raise suspicion of an infective or vasculitic diagnosis or associated HIV infection. There is no diagnostic blood test but IgG antibodies to ganglioside GM1 are present in 25% of patients, more often in those with the motor axonal neuropathy subtype. Nerve conduction may be normal during the first few days but then becomes abnormal, showing slowing of motor nerve conduction and partial conduction block. Most cases of GBS should be treated with intravenous immunoglobulin 0.4 g/kg/day for five days or, if contra-indicated (known hypersensitivity or renal failure), with plasmapheresis, instigated as early as possible. Corticosteroids do not help.

➤ **What is the indication for dialysis in case of salicylate poisoning?**

- Serum salicylate level of 50 mg/dl or 500 mg/L
- Serum salicylate level of 100 mg /dl or 1000 mg / L

ANS: B Hemodialysis Indications include:

- ✓ Salicylate concentrations 100 mg/dL in acute toxicity
- ✓ Salicylate concentrations >80 mg/dL or rising despite treatment
- ✓ Salicylate concentrations 60 mg/dL in chronic toxicity
- ✓ Patients with pulmonary edema, cerebral edema, or seizures patients requiring intubation
- ✓ Patients who cannot receive large amounts of fluid and have potentially toxic ingestions.

➤ **Patient developed proteinuria and on biopsy there is thick glomerular basement membrane what is your diagnosis?**

- IgA nephropathy
- DM
- HTN
- Membranous nephropathy

ANS: D

➤ **Diagnosis of genitourinary TB includes?**

- Sterile pyuria

ANS: A.

➤ **Best test for diagnosis of reflex nephropathy is?**

- CT
- U/S
- Voiding micturition
- Cystogram

ANS: D

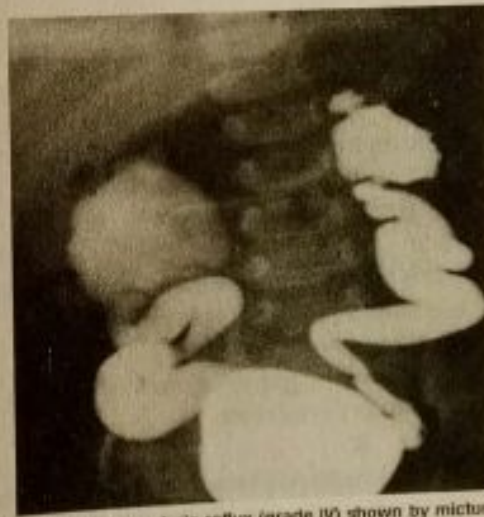


Fig. 17.25 Vesico-ureteric reflux (grade IV) shown by micturating cystogram. The bladder has been filled with contrast medium through a urinary catheter. After micturition, there was gross VUR into widely distended ureters and pelvicalyceal systems.

➤ **Underlying mechanism of renal osteodystrophy is?**

- Low calcium
- High phosphate
- Hyperparathyroidism
- Low 1-25 Vitamin D

ANS: C

➤ **Most common cause of renal papillary necrosis is?**

- a. Chronic GN
- b. Sickle cell disease
- c. DM/NASIDS

ANS: C.

➤ **In diabetic nephropathy kidney will show ?**

- a. Glomerulosclerosis
- b. Tram track appearance
- c. Spike and dome appearance

ANS: A

➤ **Blood investigations of patient shows anti-HBc igG antibody positive and anti-HbsABpositive, HBsAg is negative. What is your interpretation ?**

- a. Acute Hepatitis B infection
- b. Vaccination
- c. Chronic hepatitis infection
- d. Post infection recoverd

ANS: D

➤ **Patient is known case of hereditary hemochromatosis. What is best treatment ?**

- a. Venesection weekly (500ml → 250 mg iron)
- b. Desferroxamine
- c. D-penicillamine
- d. EDTA

ANS: A      Definitive treatment is with therapeutic venesection (weekly or fortnightly) to a target serum ferritin of < 50 µg/L (15-300) and 50-100 mcg/L for maintenance. If the serum ferritin > 1000 µg/L (15-300) µg/L at diagnosis then assess for liver cirrhosis with either a liver biopsy or transient elastography. In haemochromatosis and cirrhosis there is an 100-fold greater likelihood of developing HCC. This group warrants 6-monthly ultrasound scanning and alpha-fetoprotein measurements. Dietary adjustment is not required for patients undergoing venesection.

➤ **Best test to monitor acute fulminant liver failure is?**

- a. PT
- b. Albumin
- c. Billirubin
- d. ALT

ANS: A.

➤ **Sudden onst of pain in RHC, jaundice, and acute development of ascites ?**

- a. Portal vein thrombosis
- b. Hepatic vein thrombosis

ANS: B.

➤ **Dark liver, conjugated hyperbillirubinemia and faulty excretion of conjugated bilirubin?**

- a. Dubin jhonson syndrome
- b. Rotor syndrome
- c. Criglar niggar syndrome
- d. Gilbert syndrome

ANS: A

➤ **Long history of celiac disease now diarrhoea is worsening, what is the best investigation now ?**

- a. Endoscopy and biopsy
- b. Colonoscopy
- c. CT scan abdomen
- d. Endoscopy

ANS: A      ( Celiac disease is associated with Enteropathy associated T cell lymphoma, esophageal carcinoma )

➤ **All are the causes of epigastric pulsations except ?**

- a. RVH
- b. AAA
- c. Pulsation of liver in TR
- d. Gastric carcinoma



ANS: D

Most common cause of upper GI bleed is ?

- a. Varices
- b. Mallory weiss tears
- c. PUD
- d. Esophagitis

ANS: C.

Female patient presented with chronic diarrhoea and weight loss, she is having HB of 7 and MCV of 60 what is the cause ?

- a. IBS
- b. Celiac disease

ANS: B

Mother is HBsAg positive and HBeAg positive, how to prevent transmission to the baby ?

- a. C/section and vaccination plus immunoglobulins
- b. Normal vaginal delivery and vaccination plus immunoglobulins
- c. Avoid breast feeding
- d. No need of intervention.

ANS: B

Common complication of achalasia is ?

- a. Carcinoma esophagus
- b. Esophagitis
- c. Barret esophagus
- d. Aspiration pneumonia

ANS: B Most common complication is esophagitis and most serious complication is Aspiration pneumonia.

Most serious complication of IBD is ?

- a. Toxic megacolon
- b. Bleeding per rectum
- c. Sepsis
- d. PUD

ANS: A

Typical presentation of staph aureus induced AGE is ?

- a. Vomiting
- b. Diarrhoea
- c. Abdominal cramps
- d. Shock

ANS: A

Most common location of PUD is ?

- a. 1<sup>st</sup> part anterior wall of duodenum
- b. 1<sup>st</sup> part posterior wall of duodenum
- c. Lesser curvature of stomach
- d. Greater curvature of stomach

ANS: A.

Chronic history of Abdominal pain relive with defecation, altered bowel habits, normal iron stores and normal HB, no nocturnal symptoms, what is your diagnosis ?

- a. IBS
- b. IBD
- c. Celiac disease
- d. Chronic Pancreatitis

ANS: A Remember if there are nocturnal symptoms it always goes against IBS.

Patients presented with diarrhoea, stools floats on surface of water and hard to flush. what is your diagnosis?

- a. Pancreatic insufficiency
- b. IBS
- c. Intestinal TB

d. Carcinoid syndrome

ANS: A

Causes of steatorrhea are malabsorption syndrome like cystic fibrosis, chronic pancreatitis, celiac disease, sprue.

➤ Claw hand sign is seen in ?

- Barium swallow
- Barium enema
- Barium meal
- Barium follow through

ANS: B **Remember** in case of intussusceptions claw sign is seen on barium enema and reverse claw sign is seen on barium follow through.

Table 9: Barium swallow appearances

Clinical condition	Appearances
Achalasia cardia	Bird beak deformity of lower esophagus
CA esophagus	Rat tail tapering of lower esophagus
Diffuse esophageal spasm	Cork screw esophagus

Barium meal follow-through studies

Clinical condition	Ba meal features
CA head of pancreas	Antral pad sign, wide C loop of duodenum
Chronic duodenal ulcer with scarring	Trifoliate duodenum
Gastric carcinoma	Filling defect in antrum/body
Idiopathic HPS	String sign
Leiomyosarcoma	Bull's-eye lesion

Barium enema

Clinical condition	Radiological signs on Ba enema
CA colon	Irregular filling defect, apple core deformity
Colonic polyps	Smooth regular filling defect
Crohn's disease	String sign of cantor
Diverticulosis	Sawtooth appearance
Ileocecal TB	Pulled-up contracted cecum, obtuse ileocecal angle, filling defect, incompetent ileocecal valve
Intussusception	Coiled spring sign, pincer-shaped ending, claw sign
Ischemic colitis	Thumbprinting sign
Small bowel obstruction	String of beads
Ulcerative colitis	Loss of haustrations, lead pipe or pipe stem appearance

➤ Patient with celiac disease was well controlled on gluten free diet, now again aggravated in spite of using gluten free diet. how you will confirm your diagnosis ?

- Endoscopic biopsy

ANS: A Rule out Enteropathy associated T cell lymphoma which is associated with celiac disease.

➤ Best reliable sign to detect ascites is :

- Shifting dullness
- Fluid thrill

ANS: A Shifting dullness is both specific and sensitive while fluid thrill has very low sensitivity.

➤ Vaccine of hepatitis B contains ?

- Hepatitis B surface antigen
- Hepatitis B surface antibody

ANS: A



Commonest cause of travelers diarrhoea is ?

- a. E. coli
- b. Giardiasis
- c. Staph aureus
- d. Salmonella
- e. Shigella

ANS: A

Middle age person presented with chronic diarrhoea and abdominal pain with passage of minimal amount of blood in the stool, he is having painful erythematous nodular rash on the shins what is it ?

- a. Erythema ab igne
- b. Erythema nodosum
- c. Erythema marginatum
- d. Erythema induratum

ANS: B

Pleuritic chest pain, ECG shows diffuse ST elevation with upward concavity what is your diagnosis ?

- a. Pericarditis
- b. Myocarditis
- c. Endocarditis

ANS: A

Young patient presented with cyanosis, clubbing and SOB, his condition improves with squatting. There is ejection systolic murmur and oligemic lung fields on CXR. What is your diagnosis ?

- a. AS
- b. ASD
- c. VSD with pulmonary HTN
- d. TOF

ANS: D

Patients gets chest pain on exertion, ECG is normal, most appropriate test to confirm diagnosis is?

- a. ECHO
- b. Angiography
- c. ETT
- d. CXR

ANS: C.

Post MI there is persistent ST elevation, what may be the cause ?

- a. Dressler syndrome
- b. LV infarct
- c. Right ventricular infarction
- d. Cardiac tamponade
- e. Left ventricular aneurysm

ANS: E

Old lady got fainted for short duration. ECG is normal what will you do next ?

- a. Thallium scan
- b. ETT
- c. Holter monitoring
- d. ECHO

ANS: C

New onset murmur after MI what will you do next ?

- a. ECG
- b. ECHO
- c. THALLIUM SCAN
- d. Angiography

ANS: B

Papillary muscle rupture.

Medicine & MRCP 2nd edition

➤ A wave is absent in JVP in which condition ?

- a. Heart block
- b. Atrial fibrillation
- c. Tricuspid stenosis
- d. Tricuspid regurgitation

ANS: B

➤ Most common valve calcification occurs in ?

- a. Mitral valve
- b. Aortic valve
- c. Tricuspid valve
- d. Pulmonic valve

ANS: B

➤ Most common cause of death in IE is ?

- a. LVF
- b. Cerebral abscess
- c. Aortic root abscess
- d. Fusion of aortic valve leaflets

ANS: A.

➤ Thrombolytics are most effective in ?

- a. Anterior wall MI
- b. Inferior wall MI
- c. Lateral wall MI
- d. Posterior wall MI

ANS: A

➤ Most specific finding on ECG in case of pericarditis is?

- a. Diffuse ST elevation
- b. PR depression
- c. ST depression
- d. Flat T waves

ANS: B

Also note in case of pericarditis there is diffuse ST elevation in all leads except aVR (ST depression).

➤ ECG findings in pericarditis includes ?

- a. ST elevation
- b. PR depression
- c. Flattening and inversion of T waves
- d. ALL of the above

ANS: D

Same Question can come in exam with slight modification in stem like "ECG findings in pericarditis includes all except?

➤ Patient is started to have chest pain. O/E: BP is 200/110 on examination he is having absent pulsations in legs? What is most appropriate investigation ?

- a. ECG
- b. TEE
- c. CT angio
- d. CXR

ANS: B

## Quick HIT

TEE and CT scan are the preferred tests in the diagnosis of acute aortic dissection. TEE is very accurate and is ideal in the unstable patient because it can be performed at the bedside.



### Treatment of pulseless VT

- a. Amiodarone
- b. Flecainide
- c. Lidocaine
- d. DC cardioversion

ANS: D

Middle age lady having several episodes of Light headedness presented to OPD . ECG shows heart rate of 49 and sinus pause of 2.5 sec .What will you do next ?

- a. Permanent pace maker
- b. Trial of temporary pace maker
- c. Atropine
- d. Holter monitoring

ANS: D

What is investigation of choice in case of TIA?

- a. Echo
- b. Carotid Doppler
- c. CT scan brain
- d. Holter monitoring

ANS: C CT or MRI scan is indicated within 24 hours of symptom onset, in part to exclude the possibility of a small cerebral hemorrhage or a cerebral tumor masquerading as a TIA.

MRI with diffusion-weighted sequences is particularly sensitive for revealing acute or subacute infarction, which is seen in up to one-third of cases despite resolution of clinical symptoms and indicates a high risk of subsequent stroke. Noninvasive imaging of the cervical vasculature should also be performed; carotid duplex ultrasonography is useful for detecting significant stenosis of the internal carotid artery, and MR or CT angiography permits broader visualization of cervical and intracranial vasculature. **Refrence CMDT**

In case of Rheumatic heart disease most common valvular lesion is ?

- a. MS
- b. MR
- c. TR
- d. AS

ANS: A

Best Test for monitoring cardiomyopathy is ?

- a. ECG
- b. ECHO
- c. Angiography
- d. ETT

ANS: B

HF patient developed joint pain drug responsible is ?

- a. Lasix
- b. Thiazide diuretics
- c. Loop diuretics
- d. ACE inhibitors

ANS: B

Best way to control intermittent recurrent intermittent atrial fibrillation ?

- a. Beta blockers
- b. Amiodarone
- c. Anticoagulants
- d. Lidocaine

ANS: A

What is the cause of J wave on ECG?

- a. Hyperthermia
- b. Hypothermia

- c. Hyperkalemia
- d. Hypokalemia

ANS: B

➤ **Most reliable for angina pectoris?**

- a. ECG
- b. CXR
- c. History
- d. ECHO

ANS: C.

➤ **Drug most widely used in CPR is?**

- a. Epinephrine
- b. Amiodarone
- c. Lidocaine
- d. Verapamil

ANS: A

➤ **RVH and oligemic lung fields i.e decrease vascular markings on CXR what is your diagnosis?**

- a. Pulmonic stenosis
- b. AS
- c. TS
- d. AR

ANS: A.

➤ **Post MI patient is having double apical impulse, ECG shows persistent V4-V6 ST segment elevation, what is the cause?**

- a. Ventricular aneurysm
- b. Aortic dissection
- c. Atrial fibrillation
- d. HOCM

ANS: A



#### Examination

- Hands: nicotine staining of fingers
- Pulse: check pulse rate (keeping in mind heart block and tachycardia), rhythm (keeping in mind atrial fibrillation, ventricular arrhythmias)
- Check blood pressure
- JVP may be raised in cardiac failure or right ventricular infarction
- Eyes: look for arcus senilis, xanthelasma
- Cardiac apex: look for double apical impulse (ventricular aneurysm)
- Auscultate for fourth heart sound, pericardial rub, pansystolic murmur of papillary muscle dysfunction (or ventricular septal defect)
- Examine:
  - chest for crackles and pleural effusion
  - abdomen for tender liver of cardiac failure
  - legs for deep venous thrombosis and peripheral pulses.
- Tell the examiner that you would like to:
  - check the ECG for ST segment changes (Fig. 14.1)
  - know whether serum cardiac markers were elevated (be prepared to compute the TIMI (thrombolysis in myocardial infarction) risk score if asked, see below).

➤ **A Pt who had MI 4 months back was treated and now presenting with shortness of breath, ECG shows V4-V6 ST segment elevation, double apical impulse which investigation is the investigation of choice?**

- a. ECHO
- b. ETT
- c. Angiography
- d. Thallium scan

ANS: A

➤ **A 45-year-old woman has developed increasing SOB on exertion and fatigue. She has a loud systolic ejection murmur heard best at the left sternal border, and the murmur increases with standing. A double apical impulse is also felt. Sort out the right diagnosis**

- a. Aortic stenosis
- b. HOCM
- c. Mitral regurgitation (chronic)



- d. Tricuspid regurgitation
- e. Mitral valve prolapse

ANS: B

> Post MI which drug has no proven benefit to reduce mortality?

- a. Ramipril
- b. Atenolol
- c. Amlodipine
- d. Aspirin

ANS: C

> 55 year old has recent MI now he is asymptomatic . what drug will you advice ?

- a. ACEis
- b. Digoxin
- c. Furosemide
- d. Amlodipine

ANS: A

> Mitral commissurotomy is done fr the indication of ?

- a. Moderate to severe mitral stenosis with pliable cusp
- b. Severe pulmonary hypertention
- c. LVF
- d. Hemoptysis

ANS: A

Below text is taken from ABM Abdullah

**Q:** What surgery is usually done?  
**A:** As follows:

- Valvuloplasty (percutaneous balloon mitral valvuloplasty) is the treatment of choice.
- Valvotomy—closed mitral commissurotomy (CMC, not done now a days), open mitral commissurotomy (OMC).
- Valve replacement.

**Q:** What are the criteria for valvuloplasty?  
**A:** As follows:

- Significant symptoms.
- Pure MS.
- No or trivial MR.
- Valve: Mobile, no calcification.
- Left atrium: No thrombus.

**Q:** What are the indications of valve replacement?  
**A:** As follows:

- Associated MR.
- If the valve is calcified and rigid.
- Thrombus in left atrium despite anticoagulation.

**Q:** What are the complications of surgery?  
**A:** As follows:

- MR.
- Thromboembolism.
- Restenosis.

**Q:** What is the contraindication of surgery in MS?  
**A:** Active rheumatic carditis.

**Q:** How to treat MS in pregnancy?  
**A:** As follows:

- Bed rest.
- Correction of anaemia.
- Correction of nutrition.
- If symptomatic: Balloon valvuloplasty is the treatment of choice. If it is not possible and in severe case, can undergo successful surgery, preferably in the third trimester.
- All patients should go into full term and Caesarean section should be done.
- Advise the patient to restrict number of future pregnancy (1 to 2).

- All are indications of pacemaker except?
- a. Atrial fibrillation with sinus node dysfunction ( sick sinus syndrome)
  - b. RBBB
  - c. Symptomatic bradycardia
  - d. Prolong QT syndrome

**ANS:** B

- Drug of choice to prevent intermittent atrial fibrillation to convert into continuous Atrial fibrillation is ?
- a. Digoxin
  - b. Beta blockerz
  - c. Verapamil
  - d. Amiodarone

**ANS:** D

- To monitor asthma treatment response best test will be ?



- a. FVC  
b. FEV1  
c. PEF  
d. ABGs  
ANS: C

24 year old patient known case of asthma admitted with daily symptoms of asthma, and awakening at night two times per week. On examination he is having wheezes throughout the chest FEV1 < 80 and FEV1/FVC is reduced by 5%. What is your diagnosis?

- a. Status asthmaticus  
b. Intermittent asthma  
c. Mild persistent asthma  
d. Moderate persistent asthma  
e. Severe persistent asthma  
ANS: D

Components of Severity		Classification of Asthma Severity ≥ 12 years of age			
Impairment		Intermittent	Mild	Persistent Moderate	Severe
	Symptoms	≤ 2 days/week	> 2 days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	≤ 2x/month	3-4x/month	> 1x/week but not nightly	Often 7x/week
	Short-acting $\beta_2$ -agonist use for symptom control (not prevention of EIB)	≤ 2 days/week	> 2 days/week but not daily, and not more than 1x on any day	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
Normal FEV <sub>1</sub> /FVC: 8-19 yr 85% 20-39 yr 80% 40-59 yr 75% 60-80 yr 70%					
Risk	Lung function	• Normal FEV <sub>1</sub> between exacerbations • FEV <sub>1</sub> > 80% predicted • FEV <sub>1</sub> /FVC normal	• FEV <sub>1</sub> > 80% predicted • FEV <sub>1</sub> /FVC normal	• FEV <sub>1</sub> > 60% but < 80% predicted • FEV <sub>1</sub> /FVC reduced 5%	• FEV <sub>1</sub> < 60% predicted • FEV <sub>1</sub> /FVC reduced > 5%
	Exacerbations requiring oral systemic corticosteroids	0-1/year (see note)	> 2/year (see note)	Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV <sub>1</sub> .	
Recommended Step for Initiating Treatment		Step 1	Step 2	Step 3	Step 4 or 5
(See Figure 9-2 for treatment steps.)		In 2-6 weeks, evaluate level of asthma control that is achieved and adjust therapy accordingly.			
		and consider short course of oral systemic corticosteroids			

- a. Chronic bronchitis  
b. Bronchiectasis  
c. Asthma  
d. Emphysema  
ANS: A

There is suspected pneumothorax, what is the best initial test?

- a. Xray chest  
b. ABGs  
c. CT scan  
ANS: A



- > A 32 year old male was admitted after near drowning incident . CXR shows bilateral pulmonary infiltrates , and  $\text{PaO}_2/\text{FiO}_2$  is less than 200 . Which of the following would be essential information when talking to the intensive care unit team?
- He has acute lung injury but not acute respiratory distress syndrome
  - He has acute respiratory distress syndrome
  - High tidal volume ventilation strategy has proved beneficial
  - His mortality rate is likely to be approximately 20%
  - Inhaled nitric oxide improves mortality in this situation



## 8.20 Principles of mechanical ventilation in ARDS

- Optimum ventilator settings are:  
Pressure-controlled or limited  
Small tidal volumes (ideally  $< 6 \text{ mL/kg}$ )  
Long inspiratory to expiratory time  
Positive end-expiratory pressure (PEEP)
- Allow  $\text{PaCO}_2$  to rise (permissive hypercapnia) and tolerate lower oxygen saturations than normal (e.g. 88–90%)
- Avoid:  
Large tidal volumes  
Airway pressure of  $> 35 \text{ cmH}_2\text{O}$   
 $\text{FiO}_2$  of  $> 0.8$  if possible
- Maintain a balance between improving gas exchange, minimising the risk of subsequent pulmonary fibrosis due to lung injury, and avoiding adverse circulatory effects

ANS: B Low tidal volume ventilation strategy is more beneficial in ARDS.

### ARDS criteria

- Acute onset
  - CXR bilateral infiltrates
  - PCWP is normal (Left atrial pressure)
  - $\text{PaO}_2:\text{FiO}_2 < 200$
- > A 28-year-old woman recently developed symptoms of chest pain that changed with positioning. It was worse when lying down and relieved when sitting up. The pain is better now but she notices increasing dyspnea and edema. On examination, the blood pressure is 85/60 mm Hg with a positive pulsus paradoxus, low volume pulse at 110/min, and the heart sounds are distant. The JVP is at 7 cm with a negative Kussmaul's sign. There are low voltages on the ECG, and a large cardiac silhouette on the CXR. select the most likely diagnosis.
- Cardiac tamponade
  - Constrictive pericarditis
  - Restrictive cardiomyopathy
  - Right ventricle myocardial infarction (RVMI)

ANS: A

- > Bolus of food aspirated few days back . Now patient presented with fever .CXR shows Air fluid level what is the diagnosis ?
- Lung abscess



- b. Bronchitis
- c. Bronchiectasis

ANS: A

➤ Swan ganz catheter is used for measurement of ?

- a. PCWP
- b. End diastolic left ventricular pressure

ANS: A.

➤ Patient presented with dry cough , CXR shows lower lobe fibrosis , which of the following leads to lower lobe fibrosis ?

- a. Extrinsic allergic alveolitis
- b. Fibrosing alveolitis
- c. Aspergilosis
- d. Sarcoidosis
- e. Histiocytosis

ANS: B

➤ Mechanism of development of ARDS is ?

- a. Increase permeability
- b. Increase hydrostatic pressure
- c. Decrease oncotic pressure

ANS: A

➤ COPD patient has now developed Corpulmonale what will be the best treatment ?

- a. Steroids
- b. B2 agonist
- c. LTOT
- d. Antibiotics

ANS: C

➤ Cause of respiratory failure in pulmonary embolism is ?

- a. V/Q mismatch
- b. Hypoventilation
- c. Increased ventilation

ANS: A

➤ Old patient presented with hemoptysis , hoarsness of voice and CXR shows raised hemidiaphragm. what will be the investigation of choice ?

- a. Bronchoscopy
- b. Mediastinoscopy

ANS: A

➤ Diagnostic best test for sarcoidosis is ?

- a. ACE levels
- b. Xray chest
- c. Transbronchial biopsy
- d. CT chest

ANS: C

➤ What lung function is normal in both obstructive and restrictive lung disease?

- a. TLC
- b. Tidal volume
- c. Residual volume
- d. FEV1

ANS: B

➤ Which of the following parameter is used to monitor response to treatment in asthma ?

- a. PEF
- b. FEV<sub>1</sub>
- c. TLC
- d. Bronchial provocation test

ANS: A

➤ Mucormycosis treatment of choice is ?

- a. Amphotericin B
- b. Ketoconazole
- c. Fluconazole
- d. Vancomycin

ANS: A

➤ 55 year old patient chronic smoker having cough and hemoptysis , and having significant history of weight loss . CXR was done . what will be the most common finding ?

- a. Hilar mass
- b. Peripheral nodule
- c. Consolidation
- d. Pruning of pulmonary vasculature

ANS: A

➤ Horner syndrome is a feature of ?

- a. Pancoast tumor
- b. Carcinoma of larynx
- c. Carcinoma of breast
- d. Carcinoma of stomach

ANS: A

➤ Fever cough rusty sputum , sputum C/s shows alpha hemolytic colonies . what is the cause ?

- a. Staph aureus
- b. Strep pneumoniae
- c. Strep viridians
- d. Echinococcus

ANS: B

➤ COPD patient presented with pneumothorax . what is the cause ?

- a. Bleb rupture
- b. Carcinoma
- c. Trauma

ANS: A

➤ Patient is having chronic history of sinusitis , now presented with hemoptysis , proptosis of eyes and corneal ulceration . What is your diagnosis ?

- a. Sarcoidosis
- b. Wegners granulomatosis
- c. SLE
- d. Histiocytosis

ANS: B

➤ Patient developed ATT induce jaundice , now jaundice has settled down . what drug is to be introduced first?

- a. Pyrazinamide
- b. Rifampicin
- c. Isoniazid



d. Streptomycin

ANS: C.

> Elevation of left main bronchus on CXR what is the cause ?

- a. Left atrial hypertrophy
- b. RVH
- c. LVH
- d. RAH

ANS: A

> 68 year old male patient, He is known smoker. now presented with ataxia, vomiting and diplopia what is the diagnosis?

- a. Bronchogenic carcinoma and paraneoplastic syndrome
- b. Posterior fossa tumor
- c. Raised ICP
- d. Myasthenia Gravis

ANS: A



#### 19.74 Non-metastatic extrapulmonary manifestations of bronchial carcinoma

##### Endocrine (Ch. 20)

- Inappropriate antidiuretic hormone secretion causing hyponatraemia
- Ectopic adrenocorticotrophic hormone secretion
- Hypercalcaemia due to secretion of parathyroid hormone-related peptides
- Carcinoid syndrome (p. 887)
- Gynaecomastia

##### Neurological (Ch. 26)

- Polyneuropathy
- Myelopathy
- Cerebellar degeneration
- Myasthenia (Lambert-Eaton syndrome, p. 1219)

##### Other

- Digital clubbing
- Hypertrophic pulmonary osteoarthropathy
- Nephrotic syndrome
- Polymyositis and dermatomyositis
- Eosinophilia

> About inflammatory bowel disease all of the following are true except ?

- a. IBD includes UC and Crohn's disease
- b. Can be successfully treated with steroids and sulphasalazine
- c. Crohn's disease is commonly associated with ankylosing spondylitis
- d. Crohn's disease can affect any part from mouth to anus.
- e. Colonic cancer is one of its complications

ANS: B

> Precipitating factors for hepatic encephalopathy includes all of the following except ?

- a. Electrolyte imbalance
- b. Variceal hemorrhage
- c. Myocardial infarction
- d. Infections
- e. Sedative drugs

ANS: C

> 50 year old female presented with acute chest pain and SOB. Examination reveals bilateral ankle edema with 24 hour urinary proteins assessment shows 8 gm/day. What is the likely explanation of this condition ?

- a. Factor V leiden mutation
- b. Reduced antithrombin III
- c. Reduced concentration of VWF
- d. Reduced fibrinogen concentration
- e. Reduced factor VIII level

ANS: B

➤ A lesion of parietal lobe leads to ?

- a. Bitemporal hemianopia
- b. Homonymous inferior quadrantanopia
- c. Perservation
- d. Primitive reflexes
- e. Wernicke aphasia

ANS: B

➤ Which of the following drug is most likely to cause SLE like syndrome?

- a. Baclofen
- b. Isoniazid
- c. Methotrexate
- d. Procainamide
- e. Sulphasalazine

ANS: D

➤ An 85 year old woman presented with bilateral osteoarthritis of the knees . She had no history of previous gastrointestinal disease . which of the following is most appropriate initial treatment option ?

- a. Celecoxib
- b. Naproxen
- c. Dihydrocodiene
- d. Oral Paracetamol
- e. Topical diclofenic

ANS: D

➤ While coming across unconscious patient initially what would you do?

- a. Shout only
- b. Tap only
- c. Tap and shout
- d. Feel pulse



Step	Action
1	Verify that the scene is safe for you and the victim. You do not want to become a victim yourself.
2	Check for responsiveness. Tap the victim's shoulder and shout, "Are you OK?"
3	If the victim is not responsive, shout for nearby help.
4	Activate the emergency response system as appropriate in your setting (Figure 5). Depending on your work situation, call 9-1-1 from your phone, mobilize the code team, or notify advanced life support.
5	If you are alone, get the AED/defibrillator and emergency equipment. If someone else is available, send that person to get it.



ANS: C

➤ Major criteria for rheumatic fever includes ?

- a. Increase PR interval
- b. Fever
- c. Sinus tachycardia
- d. Erythema marginatum

ANS: D

Five manifestations are considered major manifestations of acute rheumatic fever:

- a. Carditis (clinical and/or subclinical)
- b. Polyarthrititis
- c. Chorea
- d. Erythema marginatum
- e. Subcutaneous nodules.

Four manifestations are considered minor manifestations of acute rheumatic fever:

- a. Fever ( $\geq 38.5^{\circ}\text{C}$  [ $\geq 101.3^{\circ}\text{F}$ ])
- b. Polyarthralgia
- c. Elevated inflammatory markers (erythrocyte sedimentation rate [ESR]  $\geq 60\text{mm/hour}$  and/or C-reactive protein [CRP]  $\geq 28.57\text{ nanomols/L}$  [ $\geq 3.0\text{ mg/dL}$ ])
- d. Prolonged PR interval on electrocardiogram.

➤ Patient presented to ER with chief complaints of chest pain and sweating, initial management will be ?

- a. Beta blockers
- b. Aspirin
- c. Clexane
- d. PCI

ANS: B

➤ A patient presented to ER with chief complaints of chest pain worse with inspiration, ECG showed ST elevation in chest and limb leads what could be the cause ?

- a. Acute MI
- b. Ventricular aneurysm
- c. Viral pericarditis
- d. Ventricular wall rupture

ANS: C

➤ Most common cause of subacute bacterial endocarditis is ?

- a. Staph aureus
- b. Staph viridians
- c. Streptococcus viridians
- d. Coxiella burnetti
- e. Brucella

ANS: C

➤ Bradcardia is caused by all except ?

- a. Raised ICP
- b. Obstructive jaundice
- c. Hypothyroidism
- d. Influenza

ANS: D

➤ A young girl was collapsed while giving blood sample, she had similar episode while giving blood 3 months back, what to do next ?

- a. Re-assure

- b. Admit
- c. Antipsychotics
- d. Ecg

ANS: A

➤ **Correct about spirometry ?**

- a. It depends upon weight of person
- b. It depends upon sex
- c. It depends upon weight age and sex of person
- d. It is used to diagnose upper air way obstruction

ANS: C Flow volume loop is the investigation of choice for upper air way obstruction.

➤ **Which of the following is feature of atypical pneumonia ?**

- a. Bradycardia
- b. Fever
- c. Dry cough
- d. Productive cough

ANS: C

➤ **A 6 year old child presented to emergency department with temperature of 104 °F fever and Fits what will be your initial management ?**

- a. Anticonvulsants
- b. Antipyretics
- c. Antibiotics
- d. Cold sponging

ANS: D

➤ **28 year old patient presented with fever and cervical lymphadenopathy , doctor gave him some medications after which he developed skin rash , what is your diagnosis ?**

- a. Herpes simplex
- b. Drug reaction
- c. Infectious mononucleosis
- d. Erythema migrans

ANS: C Incase of infectious mononucleosis rash typically occurs when patient is treated with ampicillin.

➤ **Most common complication of MUMPS in adults is ?**

- a. Meningitis
- b. Encephalitis
- c. Orchitis
- d. Pneumonia

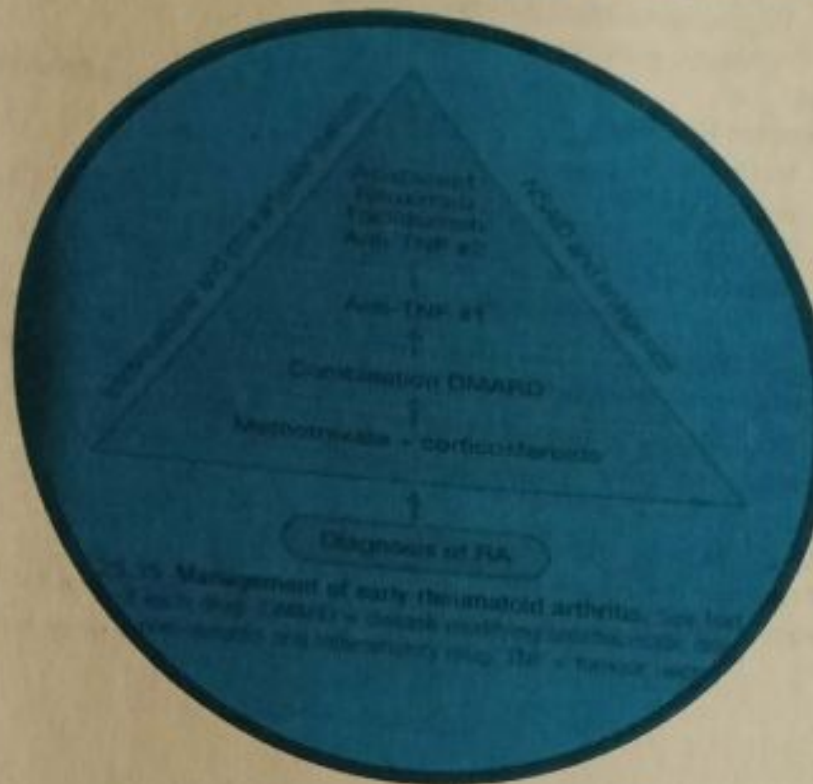
ANS: C



A patient presented with acute flare of rheumatoid arthritis, initial management will be ?

- a. MTX plus NSAIDS
- b. MTX plus steroids
- c. MTX only
- d. Steroids only

ANS: B



➤ Patient presented with joint pain, fascial rash and photosensitivity, initial screening test will be ?

- a. ANA
- b. Anti-DsDNA
- c. Anti-smith
- d. Anti-LA

ANS: A

➤ A patient presented to opd with fever cough and chest pain and cystic swelling in front of chest moving with breathing diagnosis will be ?

- a. Pneumonia
- b. Chondrochondritis
- c. Empyema necessitans
- d. Lung abscess

ANS: C

➤ Important test for diagnosis of GBS is ?

- a. NCS
- b. EMG
- c. MRI
- d. CSF analysis

ANS: A

➤ Streptomycin leads to ?

- a. Vestibular damage

- b. Cochlear damage
- c. Vestibulochochlear damage
- d. Tympanic membrane damage

ANS: C

➤ A patient has acute attack of gout what will be the drug of choice ?

- a. NSAIDs
- b. Aspirin
- c. Colchicine
- d. Allopurinol

ANS: A      Indications for allopurinol:

- 1) Recurrent attacks - the British Society for Rheumatology recommend 'In uncomplicated gout uric acid lowering drug therapy should be started if a second attack, or further attacks occur within 1 year'
- 2) Tophi
- 3) Renal disease
- 4) Uric acid renal stones
- 5) Prophylaxis if on cytotoxics or diuretics
- 6) Patients with Lesch-Nyhan syndrome often take allopurinol for life.

Acute management of gout :

- a. NSAIDs
- b. Intra-articular steroid injection
- c. Colchicine: is an alternative but has a slower onset of action with main side effect is significant diarrhoea.
- d. Rasburicase: it is a recombinant urate oxidase which may be given during acute gout attack to allow allopurinol therapy to be commenced without the initial worsening of symptoms. It is also effective newer therapy in urate nephropathy in patients undergoing chemotherapy for haematological malignancy, to prevent and treat hyperuricaemia associated with tumour lysis syndrome (TLS).

➤ Among ATT drug induced interstitial nephritis is caused by ?

- a. Ethambutol
- b. Rifampicin
- c. Streptomycin
- d. Pyrazinamide

ANS: B

➤ 45 year old male patient died on 4<sup>th</sup> day of femur fracture , his postpartum examination of brain shows petechial hemorrhages , what has happened ?

- a. DVT
- b. Central venous sinus thrombosis
- c. Brain abscess
- d. Intracranial bleed
- e. Fat embolism

ANS: E

➤ Patient has long standing history of DM , now presented with diabetic neuropathy , with inability to walk properly , his ankle joint is abnormal in contour what could be the cause ?

- a. Gout
- b. Septic arthritis
- c. Charcot joint
- d. Diabetic foot

ANS: C



➤ 32 year old pregnant lady presented with signs and symptoms of hyperthyroidism what is the DOC ?

- a. PTU
- b. Carbamazepine
- c. PTU
- d. Lugol solution

ANS: A

➤ Regarding obstructive jaundice ?

- a. Urobilinogen is raised in urine
- b. Urobilinogen is absent in urine

ANS: B

➤ 32 year old male presented to emergency department with complain of polyuria , polydipsia and polyphagia , what would be the best test for the diagnosis ?

- a. FBS
- b. RBS
- c. HBA1c
- d. Urine for Glucose

ANS: A

➤ Which of the following is least nephrotoxic?

- a. NSAIDS
- b. Gentamycin
- c. Clindamycin
- d. Doxycycline

ANS: C

➤ Middle age man presented to emergency department with complaint of sudden onset of shortness of breath , chest pain . ECG shows sinus tachycardia and Right axis deviation . what is your diagnosis ?

- a. Pulmonary embolism
- b. Myocardial infarction
- c. Pneumonia
- d. Costochondritis

ANS: A

➤ 30 year old male patient presented with swelling of big toe and pain for last 3 days , serum uric acid is normal , what is the most probable diagnosis ?

- a. Gout
- b. Pseudogout
- c. Osteoarthritis
- d. Gonococcal arthritis

ANS: A

➤ A patient is having antiphospholipid syndrome ,he has increase chances of :

- a. Bleeding
- b. Thrombosis

ANS: B

➤ 13 year old girl has presented with excessive fascial hair , most likely diagnosis will be ?

- a. Congenital adrenal hyperplasia
- b. Polycystic ovaries
- c. Cushing syndrome

ANS: A

- Pregnant lady presented with chief complaints of polydipsia , polyphagia and previous H/O of macrosomic baby best test to do will be ?
- OGTT
  - FBS
  - RBS
  - HBA1C
- ANS: A
- 30 year old female presented with progressive worsening of jaundice and generalized pruritis most likely cause will be ?
- PSC
  - UC
  - PBC
  - Gilbert syndrome
- ANS: C
- 15 year old child presents with difference in BP in between arms and legs with murmur heard over his back . what is the diagnosis?
- VSD
  - Coarctation of aorta
  - Aortic aneurysm
  - Inferior wall MI
- ANS: B
- 40 year old female Patient presented with cronic diarrhoea with Hb of 10% , MCV of 60 and low serum folic acid level , what is your diagnosis ?
- Whipples disease
  - IBS
  - Celiac disease
  - Ameobiasis
- ANS: C
- 55 year old male patient presented with anemia weight loss and heart burn . No response to PPIs . what investigation will you do next ?
- Upper GI endoscopy
  - Colonoscopy
  - Barium meal
  - Manometry
- ANS: A
- Patient presented with fever , hemoglobinuria , raised LDH and reduced heptoglobin , what is the cause ?
- Intravascular hemolysis
  - Extravascular hemolysis
  - Uremia
  - Enteric fever
- ANS: A
- 5 year old child has bleeding after hemorrhoid surgery , labs shows , PT normal , BT normal , platelet count normal , what test will you advise ?
- Lupus antibodies
  - ANA
  - VWF level
  - Factor VIII level



ANS: D

➤ Patient has vitamin B12 deficiency, what site of spinal cord will be affected?

- a. Grey matter
- b. White matter
- c. Anterior horn
- d. Posterior horn

ANS: B

➤ All of the following has normal anion gap metabolic acidosis except?

- a. RTA type 1
- b. RTA type 2
- c. DKA
- d. Diarrhea

ANS: C

➤ Patient developed Murmur post MI, what test will you perform?

- a. ECHO
- b. ECG
- c. Thallium scan
- d. ETT

ANS: A

➤ Decreased urinary chloride occurs in which of the following condition?

- a. Thiazide diuretics use
- b. Vomiting
- c. Dehydration
- d. DKA

ANS: B

➤ 40 year old patient develops motor neuropathy with autonomic dysfunction, what is the cause?

- a. Diabetes
- b. Hypocalcemia
- c. Alcoholism
- d. Cord compression

ANS: A

➤ Which of the following is complication of mumps?

- a. Parotitis
- b. Orchitis
- c. Transverse myelitis
- d. Addison's disease

ANS: B

➤ In GERD what is diagnostic?

- a. Endoscopy
- b. 24 hour pH monitoring
- c. Barium swallow
- d. Manometry

ANS: B

➤ 14 year old girl presented with jaundice fever and right sided abdominal pain, what test will you perform?

- a. AMA
- b. ANA

c. Anti HAV IGM

d. Amylase

ANS: C

➤ In fulminant hepatitis what is the best prognostic factor ?

a. PT

b. Ascites

c. Creatinine

d. Bilirubin

ANS: A

➤ In salicylate poisoning, if salicylate level is above 100/dl, what is the next step?

a. Activated charcoal

b. Dialysis

c. Urinary alkalinization

d. Intubation

ANS: B

**Hemodialysis Indications include:**

✓ Salicylate concentrations 100 mg/dL in acute toxicity

✓ Salicylate concentrations >80 mg/dL or rising despite treatment

✓ Salicylate concentrations 60 mg/dL in chronic toxicity

✓ Patients with pulmonary edema, cerebral edema, or seizures patients requiring intubation

✓ Patients who cannot receive large amounts of fluid and have potentially toxic ingestions.

➤ A young patient is suspected to have HOCM, which of the following test will confirm the diagnosis ?

a. ECG

b. Echo

c. ETT

d. Myocardial perfusion scan

ANS: B

➤ TOF is ?

a. Autosomal dominant

b. Cardiomyopathy

c. Cyanotic heart disease

d. Acyanotic heart disease

ANS: C

➤ Thickening of glomerular basement membrane occurs in ?

a. Minimal change disease

b. Membranous GN

c. RPGN

d. FSGN

ANS: B

➤ Regarding initiating antiepileptic drugs, which of the following is correct ?

a. At least two drugs should be started

b. Start with one drug at high dose

c. Start with one drug at lowest effective dose

d. Always start with IV route and then switch to oral route

ANS: C

➤ Elderly patient came with lateral calcific meniscus, what is the cause ?

a. Gout

b. Osteoarthritis

c. Pseudogout

d. Osteoporosis

ANS: C

➤ Which of the following is example of passive immunization ?

a. Tetanus toxoid



- b. Tetnus immunoglobulins
- c. BCG
- d. OPV

ANS: B

➤ 55 year old female patient presented with malaise and myalgia, CPK is high. what will you advise next?

- a. LDH level
- b. Autoimmune profile
- c. ESR
- d. Muscle biopsy

ANS: D

➤ Which vaccine is given before splenectomy?

- a. Pneumococcal
- b. Hepatitis B
- c. BCG
- d. MMR

ANS: A

➤ You see a patient with tabes dorsalis which of the following is more likely to occur in this patient?

- a. Optic atrophy
- b. Cataract
- c. Dysphagia
- d. Charcoat joints

ANS: D

➤ Most common cause of hematemesis is?

- a. Gastric ulcer
- b. Duodenal ulcer
- c. Varices
- d. Mallory weiss syndrome

ANS: B

➤ According to AHA what is the updated method of CPR?

- a. 30:2
- b. 30:1
- c. 15:2
- d. 10:1

ANS: A

➤ For diagnosis of klnifilter syndrome what is performed?

- a. Skin biopsy
- b. Buccal smear
- c. Bone marrow biopsy
- d. Rectal biopsy

ANS: B

➤ Patient presented with ptosis and dilated pupils, what is the cause?

- a. 3<sup>rd</sup> nerve palsy
- b. Myasthenia gravis
- c. 7<sup>th</sup> nerve palsy
- d. 6<sup>th</sup> nerve palsy

ANS: A

➤ What differentiates ARDS from cardiogenic pulmonary edema?

Right atrial pressure?

- a. Right heart pressure
- b. PCWP
- c. Spirometry
- d. LVEDP

ANS: B

- 34 year old farmer who also had grain storage now presented with shortness of breath and chronic cough. What is your diagnosis?

- a. Aspergillosis
- b. Farmers lung
- c. Babesiosis
- d. ABPA
- e. Silicosis

ANS: B.

- Most common cause of mitral stenosis in middle age female is?

- a. Infective endocarditis
- b. Rheumatic heart disease
- c. Carcinoid syndrome
- d. MVP

ANS: B

- Patient has empyema, How will you manage this patient?

- a. Chest intubation
- b. Rib resection with open thoracotomy
- c. Decortication
- d. Antibiotics

ANS: A      Uniloculated and free-flowing do chest intubation and multiloculated and thick pus do Decortication.

- Most common used Antiarrhythmic drug in CPR is?

- a. Lidocaine
- b. Amiodarone
- c. Beta-blocker
- d. Epinephrine

ANS: B They are asking about antiarrhythmic drug.

- HIV positive patient presented with signs and symptoms of meningeal irritation, CSF analysis is positive for India ink stain, what is the causative organism?

- a. Streptococcus
- b. Staphylococcus
- c. Cryptococcus
- d. Cryptosporidium

ANS: C

- 84 year old male patient has dentures and needs to be resuscitated, what to do first?

- a. Start CPR
- b. Pass IV line
- c. Remove dentures
- d. Pass ETT

ANS: C

- Young patient presented with arthralgia, abdominal colic and RASH on the buttock, what is your diagnosis?

- a. HUS
- b. TTP
- c. HSP
- d. ITP

ANS: C

- A young female presented with dancing movements of arms and nodules around both elbows and skin rash, what are the movements named?

- a. Chorea
- b. Hemiballismus
- c. Tics
- d. Athetosis

ANS: A

- A diagnosed case of ITP with platelet counts of 45000 what to do next?

*Last Days Revision Notes for IMM Medicine & MRCP 2nd edition*



- a. Observe
- b. Steroids
- c. Azathioprine
- d. Splenectomy

ANS: A Platelet count above 30k just observe, If platelet count is less than 30k or minor bleed → steroids, severe hemostatic failure then IVIG. Splenectomy is done if the platelet count is below 30000 after 3 months of steroid therapy.

➤ Patient of hypothyroidism was started on thyroxin when to repeat TSH again?

- a. After 4 weeks
- b. After 6 weeks
- c. After 3 months
- d. After 4 months

ANS: B.

➤ Gastrin level is increased in condition other than ZES in?

- a. Achlohydria
- b. Hypercalcemia
- c. Hypokalemia
- d. Hypocalcemia

ANS: A

➤ Best treatment of malaria in psoriasis?

- a. Mefloquine
- b. Artemether
- c. Chloroquine
- d. Amodiaquine

ANS: B.

➤ Which of the following enzyme is raised after first hour post MI?

- a. CKMB
- b. Trop T
- c. LDH
- d. Myoglobin

ANS: D.

➤ Benzene causes all of the following except?

- a. CML
- b. CLL
- c. Non Hodgkin lymphoma
- d. Aplastic anemia

ANS: C

➤ Patient with oval shaped egg in urine and hematuria what is your diagnosis?

- a. Shistosomiasis
- b. Renal cell cancer
- c. EColi
- d. Trypanosomiasis

ANS: A

➤ Patient presented with SOB and lung crepts and atrial fibrillation, what treatment should be given?

- a. Digoxin
- b. Digoxin and diuretics
- c. Verapamil
- d. Propranolol

ANS: B

- Patient presented with distal interphalangeal joint involvement and hyperkeratosis ?
- Rheumatoid arthritis
  - Pseoriatic arthritis
  - IBD arthropathy
  - Osteoarthritis

ANS: B

- A patient presented with nodular rash on shins and chronic diarrhoea, what is the rash ?
- Erythema ab igne
  - Erythema nodosum
  - Erythema marginatum
  - Erythema induratum

ANS: B.

- Complication of meningococcal meningitis is ?
- Adrenal insufficiency
  - Cranial nerve palsy
  - Brain abscess
  - Bleeding

ANS: A

- A patient presented with recurrent fits inspite taking sodium valproate. What to do next ?
- Blood drug level
  - Change drug
  - No change in drugs
  - Increase the dose

ANS: A.

- 24 year old male presented with to rheumatology clinic with presenting complaints of low back ache, stiffness at night which improves with activity, what is your diagnosis ?
- Rheumatoid arthritis
  - Osteoarthritis
  - Gout
  - Ankylosing spondylitis

ANS: D

- Squamous cell cancer of esophagus is complication of ?
- Barret esophagus
  - Achalasia
  - GERD
  - Nut cracker esophagus

ANS: B.

- A patient presented with 6 weeks of diarrhoea and bulky stools and history of travel, what is your diagnosis ?
- Shigellosis
  - Giardiasis
  - Ameobiasis

ANS: B.

- A patient presented with proximal muscle weakness and weight gain and increase serum cortisol, not suppressed by low dose Dexamethasone, but is suppressed by high dose dexamethasone suppression test and ACTH is raised.
- Cushing disease
  - Cushing syndrome



- c. Iatrogenic cushing
- d. Ectopic ACTH secretion

ANS: A.

- A patient presented with to Endocrine clinic with cataract and basalganglia calcification on CT brain short 4<sup>th</sup> metacarpal bone and low IQ what is your diagnosis ?

- a. Hypothyroidism
- b. Hyperparathyroidism
- c. Hypoparathyroidism
- d. Pseudohypoparathyroidism

ANS: D.

- Impotency in diabetes is part of ?

- a. Arterial disease
- b. Venous disease
- c. Neuropathy
- d. Psychological

Ans: C Treatment is sildenafil , but if morning erection is intact then refer to psychiatrist .

- Regarding subacute combined degeneration of spinal cord which one is correct ?

- a. Mostly involves grey and white matter
- b. Neurological signs can occur before blood changes
- c. Only effects nervous system
- d. Lower motor neurons signs are there

ANS: B

- Which of the following is the treatment of toxoplasmosis in pregnancy ?

- a. Pyrimithamine
- b. Spiramycin
- c. Penicillin
- d. Tetracycline

ANS: B

- Ring worm infection is diagnosed by ?

- a. Culture of skin fluid
- b. Scrapping of skin and KOH

ANS: B

- Pityriasis versicolor is caused by ?

- a. Malassazia
- b. Coxiella
- c. Rickittsia
- d. Bartonella

ANS: A

- A patient presented with recurrent vomiting and epigastric mass what would be the first diagnostic test?

- a. CT abdomen
- b. Endoscopy
- c. Barium enema
- d. CXR

ANS: B

- Which of the following is the most common benign small bowel tumor ?

- a. Lipoma

d. Hypnozoites

ANS: B

➤ A patient needs recurrent blood transfusion cross matching should be done in ?

- a. 1<sup>st</sup> bag only
- b. Every bag
- c. No need to do cross matching when there is emergency
- d. None of the above

ANS: B

➤ Hypercalcemia leads to ?

- a. Prolong QT interval
- b. Shortening of QT interval
- c. U wave formation
- d. J wave

ANS: B

➤ Patient presented with deafness and bone pain what is your diagnosis ?

- a. Pagets disease
- b. Sarcoidosis
- c. Multiple myeloma
- d. Osteomalacia

ANS: A

➤ Medical student with indigestion and disturbed bowel habits what is most likely diagnosis ?

- a. Irritable bowel syndrome
- b. Celiac disease
- c. Crohns disease
- d. Ulcerative colitis

ANS: A

➤ All of the following are the features of irritable bowel syndrome except ?

- a. Blood in stool
- b. Mucous in stool
- c. Diarrhea
- d. Constipation

ANS: A

➤ Prepubertal child developed mumps orchitis, it is usually ?

- a. Unilateral
- b. Bilateral
- c. Does not occur
- d. None of them

ANS: A

➤ Triad of dementia ataxia and urinary incontinence?

- a. Increased intracerebral pressure
- b. NPH
- c. SAH
- d. Cerebellar hemorrhage

ANS: B

➤ Which of the following condition a health worker is at risk of ?

- a. Hepatitis
- b. Malaria
- c. Enteric fever



d. Pneumoconiosis

ANS: A

➤ Effective dose of heparin per day is ?

- a. 10,000-20,000 IU/day
- b. 25,000 to 40,000 IU/day

ANS: B 80 IU/kg IV stat then 18 IU/kg/hour.

➤ In patient with ARDS the pathophysiological cause of edema is ?

- a. Increase hydrostatic pressure
- b. Increase oncotic pressure
- c. Decrease oncotic pressure
- d. Capillary leakage

ANS: D

➤ Drug used to control proteinuria in diabetics is

- a. Amiodarone
- b. Bisoprolol
- c. Prazosin
- d. Lisinopril

ANS: D

➤ Most common site for duodenal ulceration is

- a. Anterior wall
- b. Posterior wall
- c. Pylorus
- d. 2<sup>nd</sup> part of duodenum

ANS: A

➤ 34 year old patient was diagnosed as tuberculous meningitis was started on ATT, he is now complaining of decreased cognition, what could be the cause ?

- a. Drug effect
- b. Brain abscess
- c. Hydrocephalus
- d. None of the above

ANS: C

➤ A patient presented with fever and fits with headache, what is the investigation of choice ?

- a. MRI brain
- b. CSF analysis
- c. EEG
- d. NCS

ANS: A

➤ A 65 year old male patient presented with complaint of shoulder pain and stiffness with generalized aches and pains, ESR is 85 what is your likely diagnosis ?

- a. Ankylosing spondylitis
- b. Polymyalgia rheumatica
- c. Giant cell Arteritis
- d. Rheumatoid arthritis

ANS: B

➤ A patient with rheumatoid arthritis developed periorbital edema, what is your more likely diagnosis ?

- a. Cardiac failure
- b. Methotrexate

- c. Steroids use
- d. Amyloidosis

ANS: D

- A patient with subacute combined degeneration of spinal cord, vitamin B12 deficiency is confirmed. what will be the duration of treatment with Vitamin B12?
- a. 1 month
  - b. 3 months
  - c. 2 years
  - d. Life long

ANS: D

- In influenza virus infection what is the most common cause of mortality?
- a. Pneumonia
  - b. Meningitis
  - c. Pericarditis
  - d. Gastroenteritis

ANS: A

- Most useful step in coin lesion on CXR is?
- a. CT thorax
  - b. MRI
  - c. Chest xray
  - d. Review previous films

AN: D

- All of the following causes renal papillary necrosis Except?
- a. DM
  - b. NSAIDS
  - c. Sickle cell disease
  - d. Multiple myeloma
  - e. ALL of the above

ANS: D

- Most reliable sign in peripheral smear in TTP is?
- a. Sistocytes
  - b. Microangiopathic hemolytic anemia
  - c. Burr cells
  - d. Spur cells

ANS: A

- All of the following leads to nephrogenic diabetes insipidus except?
- a. Lithium
  - b. Demeclocycline
  - c. Glibenclamide
  - d. Methotrexate

ANS: C      Sulphonylureas leads to SIADH

- Most common finding on ECG in case of pulmonary embolism is?
- a. Sinus tachycardia
  - b. S1Q3T3 pattern
  - c. Left axis deviation
  - d. Right axis deviation

ANS: A



- 63 year old male patient presented with exertional angina and 2 episodes of syncope .O/E he has ejection systolic murmur and soft S2 what is your diagnosis ?
- Mitral stenosis
  - Aortic stenosis
  - Aortic regurgitation
  - Tricuspid regurgitation

ANS: B

- What is the most likely mechanism of atrial flutter ?
- Atrial asystole
  - Atrial bigeminy
  - Right Atrial macro-re-entry
  - AV nodal re-entry

ANS: C

- A 60 year old female presented with congestive cardiac failure , urine biochemistry will more likely to show which of the following ?
- Decreased urinary sodium
  - Increased urinary sodium
  - Proteinuria
  - Increased specific gravity

ANS: A

- Which of the following are most common changes seen secondary to uncontrolled hypertension ?
- Cotton wool spots
  - Retinitis obliterans
  - Optic atrophy
  - Foveal blindness

ANS: A

- Which of the following is most common presentation in anterior pituitary hyposecretions ?
- Loss of axillary and pubic hair
  - Amenorrhea
  - Emaciation and cachexia
  - Decreased melanin production

ANS: B

- Which of the following is responsible for ADH secretion ?
- Increase CSF pressure
  - Calcium level in CSF
  - Volume receptors in left atrium

ANS: C

- Which of the following is most common presentation of MEN-1?
- Hyperparathyroidism
  - ZES
  - Acromegaly]
  - Adrenal adenoma

ANS: A

- A 63 year old male patient has newly diagnosed light chain amyloidosis , in which of the following organ amyloid protein deposition is more likely to cause symptoms ?
- Liver
  - Pancreas

- c. Heart
- d. Thyroid

ANS: C

➤ An 18 year old female has been diagnosed as a case of anorexia nervosa, which of the following she is at Risk of?

- a. Ventricular arrhythmia
- b. Pernicious anemia
- c. Diabetes mellitus
- d. Renal failure

ANS: A

➤ Which of the following increases woman risk of breast cancer?

- a. Late first pregnancy
- b. Long term nursing
- c. Multiparity
- d. History of breast cancer in the aunt

ANS: D

➤ Which of the following is the risk factor for H-pylori infection?

- a. Excessive use of antibiotics
- b. Low socioeconomic state
- c. Female sex
- d. Excessive use of proton pump inhibitors

ANS: B

➤ A female with primary biliary cirrhosis is inquiring about treatment options available for this disease. which of the following is cure for this disease/

- a. Ursodiol
- b. Methotrexate
- c. Liver transplantation
- d. Glucocorticoids

ANS: C

➤ Which of the following is more likely to make diagnosis of malabsorption in a patient with history of chronic diarrhoea?

- a. D-xylose test
- b. Fecal fat test
- c. Mucosal biopsy
- d. Schilling test

ANS: B

➤ Most likely systemic manifestation of acute attack of ulcerative colitis is?

- a. Cholangitis
- b. Hepatitis
- c. Arthritis
- d. Uveitis

ANS: C

➤ Which of the following is present in Oculomotor nerve palsy?

- a. Ptosis
- b. Lateral gaze palsy
- c. Enlarged palpebral fissure
- d. Inability to see downward and outward

ANS: a



➤ Amenorrhea loss of libido ,galactorrhea and infertility ?

- a. Hyperparathyroidism
- b. Cushing syndrome
- c. Pheochromocytoma
- d. Prolactinoma

ANS: E

➤ Regarding igA nephropathy which of the following is not true ?

- a. Also called synpharyngitic disease
- b. Histology is similar to HSP
- c. Most common cause of GN in adults
- d. COD fish oil is not given to treat this condition

ANS: D

➤ A middle age lady has been treated for angina , now she presented with angina , and her ECG is normal , what is immediate next step ?

- a. Aspirin
- b. Nitrates
- c. ECHO
- d. Thrombolysis

ANS: A

➤ Hypokalemia can cause which of the following ?

- a. Wide QRS complex
- b. Inverted T waves
- c. Tall tented T waves
- d. Prolong PR interval

ANS: D

➤ Which of the following is the side effect of prolong heparin treatment ?

- a. Osteoporosis
- b. Gastritis
- c. Skin necrosis
- d. Hypertention

ANS: A

➤ Most common brain tumor is ?

- a. Glioma
- b. Meningioma
- c. Glioblastoma
- d. Astrocytoma

ANS: A

➤ Which of the following is most common cause of protein losing enteropathy?

- a. Scleroderma
- b. Amyloidosis
- c. Menitrier disease
- d. Disaccharide deficiency

ANS: C

➤ Which of the following results more likely suggest uncomplicated ascites due to portal hypertension?

- a. Hemorrhage
- b. Protein >25gm/l
- c. SAAG of > 1.1

d. SAAG of  $<1.1$

ANS: C

- Patient presented with recurrent arthritis of knee joint, recalls an acute illness with fever and dermatitis. which of the following is more likely diagnosis?

- a. Lyme disease
- b. Syphilis
- c. PAN

ANS: A

- Which of the following is more likely presentation of hemophilia A?

- a. Hematuria
- b. Hematemesis
- c. Melena
- d. Hemarthrosis

ANS: D

- Which of the following is the major effect of glucocorticoids in Asthma?

- a. Anti-inflammatory
- b. Bronchodilatory
- c. Mucus dissolving
- d. Anti-cough

ANS: A

- In acute pericarditis ECG shows?

- a. ST elevation with upward concavity
- b. ST elevation with downward concavity

ANS: A

- Stroke adams attack will have the following?

- a. 1<sup>st</sup> degree heart block
- b. Complete heart block

ANS: B

- Asthmatic patient presented with retrosternal chest pain and ECG is normal. what is more likely diagnosis?

- a. GERD
- b. MI
- c. COPD
- d. Pericarditis

ANS: A

- In mitral valve stenosis which of the following is characteristic?

- a. Loud S2
- b. Sustained apex beat
- c. Presystolic accentuation
- d. Soft S1

ANS: C

- Patient with COPD having pursing of lips, what is correct regarding this patient?

- a. Pursing of lips prevent atelectasis
- b. Increase air flow

ANS: A

- 45 year old worker in ship breaking factory complains of cough and breathlessness on exertion, he is clubbed and has bilateral late inspiratory crackles at the bases of, Xray chest shows bilateral basal nodular shadows, most likely diagnosis is?

*Last Days Revision Notes for IMM Medicine & MRCP 2nd edition*



- a. Asbestosis
- b. Cryptogenic fibrosing alveolitis
- c. Sarcoidosis
- d. Silicosis

**ANS: A**

- The patient complained of pain in the shoulder and chest region but also described reduced sensations and power in her arm and worsening of her respiratory symptoms, she is also having ptosis. what is the most likely diagnosis?

- a. Bronchogenic carcinoma
- b. Pancoast tumor
- c. COPD
- d. ILD

**ANS: B**

- Which of the following indicates severity of DIC?

- a. Decrease platelet level
- b. Decrease fibrinogen level
- c. Increase FDPs
- d. Increase aPTT

**ANS: B**

- Patient presented with calcified lateral meniscus on xray knee joint and it is also swollen, what is the condition?

- a. Pyrophosphate disease
- b. RA
- c. O.A
- d. Gout

**ANS: A** Pseudo-gout has calcium pyrophosphate crystals

- A patient with presented to OPD with SOB, he has recently returned from USA, Xray shows pericardial calcification what is your most likely diagnosis?

- a. Metastatic disease
- b. TB
- c. Coxsackie virus
- d. Fungal infection

**ANS: C**

- Treatment of rheumatic fever is?

- a. Penicillin plus aspirin
- b. Gentamicin
- c. Aspirin
- d. LMWH

**ANS: A**

- Rapid infusion of KCL leads to?

- a. Cardiac arrest in systole
- b. Cardiac arrest in diastole

**ANS: B**

- A patient after MI developed ventricular tachycardia what is the management?

- a. Amiodarone
- b. Quinidine
- c. Esmolol
- d. DC shock

ANS: A

- Patient presented with brainstem stroke best investigation in 1<sup>st</sup> hour is ?
- MRI brain
  - CT brain
  - MRV
  - MRA

ANS: A

- Patient with atrial fibrillation developed pain and pallor of right leg what is the investigation of choice ?
- Angiography
  - Venography
  - Duplex scan
  - Plebography

ANS: A

- A diabetic patient who has angioedema now become hypertensive drug of choice will be ?
- Captopril
  - Metoprolol
  - Terazosin
  - Losartan

ANS: D

- Which of the following is characteristic of familial hypercholesterolemia ?
- Tendon xanthomas
  - Eruptive xanthomas
  - Corneal arcus
  - Xanthogranulomas

ANS: A

- A patient with new onset Atrial fibrillation presented with BP of 70 /40 mmhg what is most appropriate management ?
- Digoxin
  - Beta blockers
  - Amiodarone
  - DC shock

ANS: D

- An old patient presented with BP of 180/100 mmhg with head ache and confusion .His wife told you that he was stumbling on to the furniture .what is the most important bedside test you will perform?
- Fundoscopy
  - Rhomberg sign
  - Mini mental score
  - GCS

ANS: A

- A patient who had MI 1 month back now developed SOB and pleuritic chest pain , Dressler syndrome is suspected , what is the nature of this disease/
- Bacterial
  - Viral
  - Fungal
  - Autoimmune

ANS: D



- Patient with PDA now had shunt reversal, which of the following is characteristic feature of reversal of shunt?

- a. Absent femoral pulse
- b. Cyanosis of lower limb

ANS: B

- Patient presented to you with suspected pulmonary hypertension, what is the investigation of choice?

- a. ECHO
- b. ECG
- c. HRCT
- d. Pulmonary angiography
- e. Cardiac catheterization

ANS: E

- In hypothyroidism which test is more useful in diagnosis and monitoring of disease?

- a. Thyroglobulin
- b. Free T3
- c. Free T4
- d. TSH
- e. Thyroid autoantibodies

ANS: D.

- 55 year old male patient presented with deafness and vertigo, nystigmus and CT scan shows hypodense lesion at CP angle, what is more likely diagnosis?

- a. Meningioma
- b. Schwannoma
- c. Glioma
- d. Ependymoma

Ans: B

- 16 year old child have fever and painful paroid enlargement developed neck stiffness and confusion, what is the most likely diagnosis?

- a. Meningitis
- b. Meningoencephalitis
- c. Fungal infection

ANS: B

- Patient with candidiasis and recurrent infections, fever and weight loss, CXR was done which shows bilateral infiltrates. what is your most likely diagnosis?

- a. Aspergillosis
- b. PCP
- c. Sarcoidosis
- d. Tuberculosis

ANS: B

- Adult male presented with blindness, polydactyly and fascial puffiness what is your most likely diagnosis?

- a. Laurence moon bardet beidel syndrome
- b. Potter sequence
- c. Rafsum disease
- d. Kearns sayre syndrome

ANS: A.

- Which test is performed to diagnose Sheehan syndrome?

- a. Pituitary function test
- b. ACTH stimulation test
- c. Growth hormone stimulation test
- d. MR brain

ANS: A

➤ Patient has tremors in hands that are causing social embarrassment, father has similar condition. what is the condition?

- a. Benign essential tremors
- b. Intentional tremors

ANS: A

➤ Patient has conjunctivitis along with erythema nodosum and pleural effusion what is the more likely diagnosis?

- a. Tuberculosis
- b. Sarcoidosis
- c. Coccidiomycosis
- d. Histoplasmosis

ANS: B

➤ Microalbuminuria is marked which level?

- a. 50
- b. 150
- c. 200
- d. 250

ANS: A

➤ Patient with polycythemia rubra vera now presented with abdominal pain jaundice and ascites, what is the diagnosis?

- a. Hepatitis
- b. Hepatic vein thrombosis
- c. PBC
- d. Intestinal TB

ANS: B

➤ Cannon 'a' is not seen in?

- a. Complete heart block
- b. Ventricular ectopic beats
- c. Tricuspid regurgitation
- d. Pulmonary hypertension

ANS: C

➤ Post exposure prophylaxis in case of rabies (vaccine and immunoglobulins) provide how much protection?

- a. 100%
- b. 90%
- c. 80%
- d. 70%

ANS: A      Reference CMDT

➤ 66 year old female has a 15 years history of aggressive deforming rheumatoid arthritis. She has chronic neck pain she is maintained on D-penicillamine. Two weeks ago she noticed extreme difficulty in climbing stairs and 3 days before admission she was unable to comb her hair and or feed herself. Neurological examination reveals 3/5 power in both upper and lower



limbs. Touch and pinprick sensations are intact and deep tendon reflexes are normal. Babinski signs are positive bilaterally. Which of the following test is more appropriate at this stage?

- a. Plain xray of cervical spine
- b. EMG
- c. NCS
- d. Isotope bone scan
- e. MRI spine

ANS: E

➤ Which of the following is not a feature of VWD?

- a. Hemarthrosis
- b. Prolong bleeding time
- c. Decrease factor VIII level
- d. Prolong appt

ANS: A

➤ Which of the following is not a feature of botulism?

- a. Confusion
- b. Diplopia
- c. Dysphagia
- d. Dysphonia

ANS: A

➤ What is the pharmacological treatment of erectile dysfunction in diabetics?

- a. Sildenafil
- b. Ergot derivatives
- c. Glyceryl trinitrates
- d. Metformin

ANS: A

➤ An old male develops agitation and psychosis after administration of atropine, what is the treatment?

- a. Haloperidol
- b. Diazepam
- c. Risperidone
- d. Physostigmine

ANS: D

➤ Young female presented with only ptosis and diplopia in the evening, myasthenia gravis is suspected, which treatment will you advise?

- a. Thymectomy
- b. Thymectomy plus acetylcholinesterase inhibitors
- c. Acetylcholinesterase inhibitor
- d. Acetylcholinesterase inhibitor and steroids

ANS: C Note → In pure ocular myasthenia thymectomy is not done.

➤ Hyperurecemia is an early feature of?

- a. Psoriasis
- b. Rifampicin
- c. Thiazide diuretics
- d. Loop diuretics

ANS: C

➤ In severe methanol poisoning best treatment modality is?

- e. Ethanol

- f. Fomepizol
- g. Hemodialysis
- h. Activated charcoal

ANS: C

> An old man is prescribed hydrochlorothiazide for HTN . which of the following is most likely side effect of this drug ?

- a. Sexual incompetence
- b. Respiratory alkalosis
- c. Metabolic acidosis
- d. Increase serum potassium

ANS: A

> 30 year old CKD patient presented with sepsis which of the following drug requires major reduction in dose ?

- a. Erythromycin
- b. Tobramycin
- c. INH
- d. Doxycycline

ANS: B

> Most common long term complication of steroids use is ?

- a. Osteoporosis
- b. Addisonian crisis
- c. Osteonecrosis of jaw
- d. DM

ANS: A

> 20 year old female presented to you in ER with accidental injection of insecticides . best drug to be given is ?

- a. Neostigmine
- b. Atropine
- c. Praloxime
- d. Edrophonium

ANS: B

> Long term side effect of heparin is ?

- a. HIT
- b. Hyperkalema
- c. Dementia
- d. Osteoporosis

ANS: D

> An old age female has been prescribed ciprofloxacin for some infection . what are the adverse effects of ciprofloxacin in this patient?

- a. Nausea and vomiting
- b. Constipation
- c. Tendon and cartilage rupture
- d. Diarrhea

ANS: C

> A 30 year old female presented with difficulty in Swallowing , She feels that there is something in his throat , clinical examination and rest of investigations are normal . what is most likely diagnosis ?

- a. Pseudobulbar palsy



- b. Achalasia
- c. Globus hystericus
- d. CA esophagous

ANS: C

- A patient developed local ecchymosis and swelling after snake bite, he subsequently died after coma, cause of death is ?

- a. Intracranial hemorrhage
- b. Pulmonary embolism
- c. Respiratory paralysis
- d. AKI

ANS: A

- Regarding snake bite most useful management option is ?

- a. Transfer patient to hospital that is at distance of 30 minutes
- b. Apply tourniquet
- c. Incise the wound
- d. Cut and suck the bite site

ANS: A

- Young girl after fight with parents presented to emergency department with drowsiness tachycardia, there is some mass palpable below umbilicus (urinary retention) what is your diagnosis ?

- a. TCA poisoning
- b. Brain hemorrhage
- c. VHL
- d. Tuberous sclerosis

ANS: A

- Patient presented to you after snake bite with diminished pulses in the effected limb raised INR and limb swelling what is the best treatment option ?

- a. FFPS and fasciotomy
- b. FFPS
- c. Platelet transfusion
- d. IV fluids

ANS: A

- Young male presented to emergency department with loss of consciousness dilated pupils and garlic smell coming out of his mouth, what is your diagnosis ?

- a. Wheat pill poisoning
- b. Rat poisoning
- c. Benzodiazepines
- d. TCA

ANS: A

- A patient presented with basal cell cancer, sebaceous lesion, actinic keratosis, what is the associated malignancy with this condition ?

- a. Breast cancer
- b. Ovarian cancer
- c. Colon cancer
- d. Melanoma

ANS: C

- Faget sign is seen in ?

- a. Yellow fever

- b. Malaria
- c. Hepatitis
- d. Dengue fever

ANS: A

➤ Prophylactic antibiotic for anthrax is ?

- a. Ciprofloxacin
- b. Chloramphenicol
- c. Doxycycline
- d. Amoxicillin

ANS: A

➤ Patient is hepatitis C positive presented with polygonal pruritic, violaceous rash what is your diagnosis ?

- a. Lichen planus
- b. Psoriasis
- c. LSC
- d. Prurigo

ANS: A

➤ Plebthrombosis most of the time cause ?

- a. Pain
- b. Cellulitis
- c. Does not cause any symptoms most of the time
- d. Limb ischemia

ANS: C

➤ Best prophylaxis for DVT is?

- a. Intermittent pneumatic compression
- b. LMWH
- c. Unfractionated heparin
- d. Warfarin

ANS: B

➤ What is the dose of adrenaline in CPR?

- a. 1 mg
- b. 2 mg
- c. 0.5 mg
- d. 3 mg

ANS: A

➤ Single best test for DVT is ?

- a. D-dimers
- b. fdps
- c. Doppler U/S
- d. Venography

ANS: D

➤ Acute nephrotic syndrome is characterized by:

- a. Proteinuria
- b. Haematuria
- c. Oedema
- d. Hypertension
- e. A&C

ANS: E



- Rheumatoid arthritis patient on Steroid, develops sudden diffuse pain in abdomen with Vomiting along with Shoulder tip Pain, test to Perform?
- CXR
  - U/S
  - Endoscopy
  - USG KUB

ANS: A

- A 45 years old man attends OPD with nephrotic syndrome, but his condition rapidly progresses with oedema of his feet extending to mid calves. On examination BP 155/100, pulse 80, temperature 37 degrees, heart lungs normal. Abdominal mild ascites With hepatic size normal, blood urea nitrogen 10mg/dl, creatinine 1.0mg/dl, urinalysis 4+ Protein, 1 RBC/HPF, no RBC cast, 24 hours urine contained 9.6g protein. Which of the following is likely to account for his illness?
- Poststreptococcal GN
  - Membranous nephropathy
  - Lupus nephritis
  - Amyloidosis
  - Diabetes mellitus

ANS: B

- Which of the following statements is true for hepatitis A infection:
- A carrier state is common following initial infection
  - The mortality rate is about 10%
  - Infection is transmitted mainly by parenteral route
  - The incubation period is 2-4 weeks
  - Infective units are called Dane particles

ANS: D

- CREST Syndrome Stands for all EXCEPT:

- Raynaud
- Calcinosis
- Sclerodactyly
- Telangiectasia
- GERD

ANS: E

- A 22 years old lady has been diagnosed as having primary syphilis. Which one is an appropriate antibiotic:

- Tetracyclin
- Metronidazole
- Procaine penicillin
- Spectinomycin
- Benzathine penicillin

ANS: E If patient is allergic to penicillin then give doxycycline

- The most common cause of abdominal aortic aneurysm is:

- Trauma
- Syphilis
- Atherosclerosis
- Vasculitides
- Hypertension

ANS: C

- A diagnosed Case of rheumatoid arthritis patient presents with anemia, thrombocytopenia. Diagnosis?

- A. Kapan Syndrome
- B. Felty Syndrome
- C. Bone Marrow Suppression

ANS: B

- A 55 yr old man has persistent cough, weight loss and clubbing of fingers. Xray of hand shows new bone formation beneath the periosteum. Which of the following condition is associated with it?

- A. Chronic renal failure
- B. Colon cancer
- C. Endocrine adenoma
- D. Profound anaemia
- E. Lung cancer

ANS: E

- A young male presents to you in OPD with Pain and tenderness in right Knee Joint. His left knee joint is not tender. On examination; you find a pustule rash around the affected Knee Joint. What will be your diagnosis?

- A. Gout
- B. Reactive arthritis
- C. Gonococcal arthritis
- D. Staphylococcus arthritis

ANS: C

- Biopsy of the synovium of the knee joint in rheumatoid arthritis would reveal?

- A. A nearly normal synovium with scattered inflammatory cells
- B. A non proliferative synovitis with abscess formation
- C. A non proliferative synovitis with many neutrophils
- D. A proliferative synovitis with many eosinophils, neutrophils, plasma cells
- E. A proliferative synovitis with many lymphocytes, macrophages, plasma cells

ANS: E

- A patient has had Pulmonary TB, on ATT for the last 2 months, developed joint pain and swelling. What will be your diagnosis?

- A. Rheumatoid Arthritis
- B. Tuberculosis of joint
- C. Acute Gout

ANS: C

- A 27-year-old intravenous drug abuser with fever has blood culture obtained 24 hours, later shows the presence of gram-positive cocci in clusters. Identification of organisms is Pending. The most appropriate antibiotic of choice is:

- A. Trimethoprim/Sulfamethoxazole
- B. Penicillin
- C. Nafcillin
- D. Vancomycin
- E. Ciprofloxacin

ANS: C

- The most sensitive test to assess renal failure is:

- A. Serum sodium
- B. Serum potassium
- C. Serum urica
- D. Serum creatinine
- E. Creatinine clearance

ANS: E



- A young boy presented with petechiae, haematuria, bleeding from gums and epistaxis. History was given of a snake bite. Blood examination will show decreased level of:
- A. Platelets
  - B. Factor VIII
  - C. Prothrombin time
  - D. Activated partial thromboplastin time
  - E. Fibrin degradation products

ANS: A

- 70 yr old woman comes to you in OPD. She complains of sudden onset of Pain And Stiffness of her shoulder and upper thighs. She has generalized aches and low grade fever. Physical Examination was Normal, ESR 100. What is your diagnosis?

- A. Ankylosing Spondylitis
- B. Polymyositis
- C. Dermatomyositis
- D. Gout
- E. Polymyalgia Rheumatica

ANS: E

- Gastric ulcers are characterized by:

- A. Males are affected more than females
- B. Seen in younger age group
- C. It is not associated with smoking
- D. Common site is lesser curvature of stomach
- E. Common site is greater curvature of stomach

ANS: D

- 29 yr old male presents to you in OPD and complains of low backache for many days. He tells you further that his spine become stiff early in the morning improves gradually with activity during the day:

- A. OA
- B. Ankylosing Spondylitis
- C. Gout
- D. Rheumatoid Arthritis

ANS: B

- A 38-year-old man brought to OPD by his family because of intellectual decline over the two months. Examination reveals slow Writhing movements with dystonic Posturing. His father has died of similar illness. Which is the most likely diagnosis?

- A. Parkinson disease
- B. Wilson disease
- C. Syphilis
- D. Huntington disease
- E. Cerebellar degeneration

ANS: D

- Cushing disease is a feature of:

- A. Chromophobe adenoma of the pituitary gland
- B. Acidophilic adenoma of the pituitary gland
- C. Basophilic adenoma of the pituitary gland
- D. Non-secreting adenoma of the pituitary gland
- E. Microprolactinoma

ANS: C

- A lady presents to you in OPD and Ulcer in her mouth. She tells you that she has Ulcer once frequently and she has some lesion on the genital area. She also complains of joint swelling. What will be your diagnosis?

A. Behcet Syndrome  
B. Lyme Disease  
C. Sarcoidosis

ANS: A

- A male patient presented with pseudohypertrophy of the muscles. Workup of the patient revealed elevated creatinine kinase levels with disturbance in dystrophin action. The chromosomal studies showed abnormal genes located at Xp2. The most likely diagnosis is?

A. Duchenne muscular dystrophy  
B. Becker's muscular dystrophy  
C. Thyrotoxic myopathy  
D. Dermatomyositis  
E. Polymyositis

ANS: A

- CREST syndrome consists of all of the following Except:

A. Telangiectasia  
B. Scleroderma  
C. Raynaud  
D. Esophageal dysmotility

ANS: B

- A 38-year-old factory worker develops increasing weakness in his legs. The co-workers had no episodes of transient confusion. The patient has bilateral foot drop and atrophy, wrist weakening is also present 9.6gm/dl, peripheral blood film shows basophilic Stippling. Which of the following is the most likely diagnosis?

A. Amyotrophic lateral sclerosis  
B. Myasthenia gravis  
C. Alcoholism  
D. Overuse syndrome  
E. Lead poisoning

ANS: E

- Young male present to you with pain in joints and abdomen. You examined the patient and found rash on the buttocks and extreme surface of the body. What will be your diagnosis?

A. ITP  
B. TTP  
C. HSP  
D. HUS  
E. HUA

ANS: D

- Which is the commonest organism causing pyelonephritis?

A. E.Coli  
B. Proteus  
C. Pseudomonas  
D. Enterobacter  
E. S.faecalis

ANS: A



- Feature of Raynaud since Childhood, now persistent discoloration of hand and feet altogether heartburn:

A. RA  
B. MCTD  
C. SLE  
D. HSP  
E. Scleroderma

ANS: E

- A 30 yr old male patient presents with generalized muscle weakness and loss of libido. On examination he has broad sausage like fingers and toes and jaw is enlarged and protuberant with loose teeth. To confirm a diagnosis of acromegaly, Which hormone will you measure following an oral dose of glucose?

A. Insulin  
B. Insulin-like growth factor  
C. TSH  
D. Growth hormone  
E. ACTH

ANS: D

- Which of the following illness causes delayed ankle jerk:

A. Cerebellar disease  
B. Hypothyroidism  
C. Diabetes mellitus  
D. Poliomyelitis  
E. Tabes dorsalis

ANS: B

- True Regarding SLE:

A. ANA level used to monitor disease activity  
B. ESR remain Level  
C. Anti dsDNA used to monitor disease activity  
D. CRP level used to monitor disease activity

ANS: C

- Among causes of short stature the most common cause is:

A. Idiopathic growth hormone deficiency  
B. Constitutional growth delay  
C. Hypothyroidism  
D. The systemic disease of bone cartilage dysplasia  
E. Turner syndrome

ANS: B

- A 58 years old man with type 2 DM feels well with HbA1C 6.4%, mild hypertension and hyperlipidemia. Which one of the following is appropriate routine testing for a diabetic patient:

A. Dilated eye examination twice a year  
B. Home testing of fasting of blood sugar once a week  
C. 24-hours urine protein annually  
D. Urine for microalbuminuria annually  
E. Referred to a neurologist for peripheral neuropathy evaluation

ANS: D In Type-I diabetic: Annually from 5 years after diagnosis and IN Type-II diabetic: Annually from the time of diagnosis

- A diabetic patient was admitted in Pulmonology ward with thin walled cavity Pneumonia. Cause is:

- A. Klebsiella
- B. E.Coli
- C. S.Aureus
- D. Streptococcus

ANS: A

- After a dog bite a pink stained structure is seen in the central neuron, slightly above the nucleus. What is the diagnosis?

- A. Herpes simplex
- B. Rabies
- C. Metachromatic leukodystrophy
- D. Progressive multifocal leukoencephalopathy
- E. Tay-Sachs or another disease

ANS: B

- A middle aged alcoholic male presents to you in the emergency department with acute onset of chest pain and SOB. His sputum culture shows mixed growth. What will be your diagnosis?

- A. Pleural Effusion
- B. Lung Abscess
- C. Pneumothorax
- D. Aspiration Pneumonia

ANS: D

- A 28-year-old teacher is referred for evaluation of causes of nephrolithiasis. Over the past five years, he had passed six kidney stones. Paternal grandfather had kidney stones. Serum and urine chemistry for Calcium, phosphate, uric acid, magnesium were normal. Urine PH was 5 and urine examination showed occasional hexagonal crystal. Which of the following is most likely cause of nephrolithiasis?

- A. Cystine stones
- B. Calcium oxalate stones
- C. Uric acid stones
- D. Calcium phosphate stones
- E. Magnesium, ammonium, calcium, phosphate stones

ANS: A

- A young male patient, who took treatment for Pulmonary TB for 9 months, has now presented with a round cavitory lesion on CXR. The most likely diagnosis:

- A. Lung abscess
- B. TB Reactivation
- C. Sarcoidosis
- D. Aspergilloma
- E. Lung tumor

ANS: D

- Which of the following is the major effect of Glucocorticoids in bronchial asthma?

- A. Mucus dissolving
- B. Antitussive
- C. Anti-inflammatory
- D. Bronchodilatory

ANS: C

- A 12-year-old boy has a family history of renal disease with males more severely affected than females. He is found to have auditory nerve deafness and ocular lens dislocation. Urine analysis shows microscopic hematuria, renal biopsy shows glomeruli with the irregular basement membrane, thickening and attenuation with



the splitting of lamina densa. The mesangial matrix is increased and epithelial cells appear foamy. Which of the following is the most likely diagnosis?

- A. Good pasture syndrome
- B. Alport syndrome
- C. IgA nephropathy
- D. Polycystic kidney disease
- E. Diabetes mellitus

ANS: B

- A pulmonary TB patient suddenly develops facial puffiness and pedal edema. On examination, he has hepatomegaly with raised JVP inspiration. What is the cause?

- A. Constrictive Pericarditis
- B. Abdominal TB
- C. Malabsorption
- D. Malnutrition

ANS: A

- A 50-year-old male was diagnosed to have diabetes mellitus at age of 15. His disease is poorly controlled and he has developed diabetic nephropathy. Which of the following renal disease is most likely to have:

- A. Papillary necrosis
- B. Pyelonephritis
- C. Crescentic glomerulonephritis
- D. Acute tubular necrosis
- E. Nodular glomerulosclerosis

ANS: E

- Investigation of Choice to diagnose Pneumothorax?

- A. PFTS
- B. HRCT Chest
- C. USG Chest
- D. CXR
- E. CT chest with IV Contrast

ANS: D

- A 50-year-old female has been treated ten days back for bronchopneumonia. She has developed fever, chills and skin rash for 2 days. Peripheral blood film shows eosinophilia. On urine analysis, she has proteinuria. There is no significant past history. Her HbA1C is normal, what is the most likely diagnosis:

- A. Acute serum sickness
- B. Acute tubular necrosis
- C. IGA nephropathy
- D. Drug-induced interstitial nephritis
- E. Post streptococcal glomerulonephritis

ANS: D

- Best treatment for Bronchiectasis:

- A. Postural drainage
- B. Antibiotics
- C. Antibiotics and postural drainage

ANS: C

- A 55-year-old man is found unconscious. On Physical examination he is afebrile. After catheterization, he passes a small amount of dark urine. The urine dipstick for blood is positive but no RBCs are seen on microscopic urine examination. What is most likely diagnosis:

- A. Myoglobinuria
- B. IgA nephropathy
- C. Renal papillary necrosis
- D. Urethral lithiasis
- E. Renal infarction

ANS: A

- A 68 yrs old amle aspirated noodles while eating. He was admitted in tertiary care hospital and treated for aspiration pneumonia for 7 days. His recent CXR shows an air fluid level in left mid-zone. What is your diagnosis?

- A. Bronchiectasis
- B. Empyema
- C. Pneumothorax
- D. Lung Abscess
- E. Pleural Effusion

ANS: D

- A 12 yr old boy develops pain and swelling of his left knee joint which he attributes to a fall on the cricket ground. His joint is swollen and tender. A synovial tap yields hemorrhagic fluid. Multiple bruises are present on elbow joints. APTT is prolonged. PT and bleeding time are within normal limits. What clotting factor assay, would you like to have in this patient?

- A. Factor VIII
- B. Factor VIII and IX
- C. Factor X
- D. Prothrombin
- E. Fibrinogen

ANS: B

- Useful Investigation for the diagnosis of Sarcoidosis:

- A. Chest X-Ray
- B. Lymph Node Biopsy
- C. Blood Tests

ANS: B

- A 32 yr old female presents with severe respiratory distress. She has a protracted history of dyspnea on mild exertion for the past many years. Chest radiograph shows right ventricular enlargement. There is no history of congenital heart disease, interstitial lung disease or obstructive pulmonary disease. Serological tests for autoimmune conditions are negative. A lung biopsy shows marked medial hypertrophy and intimal fibrosis of pulmonary arterioles. What is the most likely cause for this patient's symptoms?

- A. Right-sided cardiac failure
- B. Emphysema
- C. Good pasture syndrome
- D. Primary pulmonary hypertension
- E. Secondary pulmonary hypertension

ANS: D

- A middle aged housewife complains of a productive cough. On examination she has clubbing and bilateral coarse crepitations. What is your most likely diagnosis?

- A. Lung Abscess
- B. ILD
- C. Pneumonia
- D. Bronchiectasis



**ANS: D**

- A young man got a fracture of femur about 2 months back. He was discharged from the hospital with POP placed. Now he presents to you with hemoptysis and chest pain. CXR shows a small pleural effusion. What is your most likely diagnosis?

A. Pulmonary Infarction  
 B. Air Embolism  
 C. Fat Embolism  
 D. Pneumonia  
 E. Pulmonary Embolism

**ANS: E**

- A 40 yr old paramedic is found to be Hepatitis B surface antigen positive after a needle prick injury. Six months later he remains asymptomatic with normal liver function tests; HBs antigen remains positive while Hbe antigen and HBV DNA by PCR are both negative. How best would you describe the status of this patient?

A. Asymptomatic carrier state  
 B. Completely resolved infection  
 C. Chronic active hepatitis  
 D. Acute hepatitis  
 E. Convalescence phase

**ANS: A**

- 37 yr old male presents to you in chest OPD with a history of dry cough and SOB for 5 days. These symptoms were preceded by flu-like symptoms. On examination, you noticed erythematous rash with "target lesions" over the whole body which seemed to be symmetrical. What is the most likely organism?

A. Mycoplasma  
 B. Pseudomonas  
 C. Legionella  
 D. S. Aureus

**ANS: A**

- A 50-year-old obese male has presented with Type 2 DM. He is uncontrolled on diet alone. Which of the following oral hypoglycemic agent functions through improving insulin sensitivity and is suitable for this patient?

A. Acarbose  
 B. Glipzide  
 C. Gliclazide  
 D. Pioglitazone  
 E. Metformin

**ANS: E**

- In squamous cell Cancer, which one of the following paraneoplastic features is least commonly seen?

A. Lambert Eaton Syndrome  
 B. Hyperthyroidism  
 C. Hypertrophic Pulmonary Osteoarthropathy

**ANS: A**

- A six-year-old girl has episodes of staring and inability to communicate EEG shows 3/sec synchronized spike-wave discharges. Which Antiepileptic is best for her?

A. Phenytoin  
 B. Gabapentin  
 C. Primidone

- D. Ethosuximide
- E. Carbamazepine

ANS: D

A 12 year old boy is found to have Tape worm infestation. In this case, the drug of choice is:

- A. Praziquantel
- B. Mebendazol
- C. Niclosamide
- D. Piperazine citrate
- E. Pyrantel pamoate

ANS: A

Morphine is contraindicated in:

- A. Myocardial infarction
- B. Peptic ulcer
- C. Headache
- D. Bronchial asthma
- E. Paroxysmal nocturnal dyspnea

ANS: D

A patient presented non-purulent cellulitis of the lower limb. He is allergic to penicillin. The next antibiotic of choice will be?

- A. Co-amoxiclav
- B. Erythromycin
- C. Clindamycin
- D. Vancomycin
- E. Gentamicin

ANS: C For Non-Purulent cellulitis:

(Mild Cases)

Consider Oral antibiotics:

Dicloxacillin, amoxicillin, and cephalexin are all reasonable choices.

If penicillin allergic: Clindamycin or a macrolide (clarithromycin or azithromycin)

(Moderate cases)

Consider following IV antibiotics:

Penicillin G, Cefazolin, Nafcillin, Ceftriaxone

If penicillin allergic: Clindamycin

(Severe Cases)

Consider following IV antibiotics

Vancomycin + piperacillin/tazobactam

A patient of paroxysmal Supraventricular tachycardia can be treated with:

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- A. Nifedipine
- B. Metoprolol
- C. Sotalol
- D. Lignocaine
- E. Pindolol

**ANS: B Treatment Protocol of SVT:**

Hemodynamically unstable: DC Conversion

Hemodynamically stable:

Best initial: Vagal maneuvers

If vagal maneuvers fail: DOC → IV adenosine

If adenosine is not effective:

IV beta-blockers (metoprolol)

IV calcium channel blockers (Diltiazem, verapamil).

- A 30-year-old Gardner was spraying insecticides in the garden. He felt unconscious, excess salivation and constriction of the pupil. Which one of the following drugs should be administered to the patient?

- A. Adrenaline
- B. Amphetamine
- C. Atropine
- D. Digoxin

**ANS: C** This is a case of **Organophosphate poisoning**. So, atropine should be given

**For Management of Organophosphate poisoning:**

Decontaminate the patient by:

Removing clothes

and washing of the skin

Medications to use:

Atropine and Pralidoxime

Pralidoxime — Should be given after Atropine

- The treatment of gestational diabetes would comprise of:

- A. Glimeclamide
- B. Chlorpropamide
- C. Glipizide
- D. Insulin
- E. A and C

**ANS: D**

- Which of the following insulin preparations has the longest duration of action?

- A. Semilente insulin
- B. Globin zinc insulin
- C. NPH insulin
- D. Regular insulin
- E. Ultralente insulin

**ANS: E**

- **Beta-blockers:**

- A. Relieve symptoms of thyrotoxicosis
- B. Should not be used along with Carbimazole

- C. Reduce the synthesis of hormones in The gland
- D. Should not be given before thyroid Surgery

ANS: A

A 59 yr old male patient desires a screening test for prostate cancer. What would you recommend:

- A. Serum prostatic phosphates
- B. Serum prostate-specific antigen
- C. Serum CEA with prostate ultrasound
- D. Serum prostatic acid phosphatase with pelvic x rays
- E. Serum prostate-specific antigen with a digital rectal exam

ANS: E

What type of casts is seen in glomerulonephritis?

- A. RBC casts
- B. Granular casts
- C. Hyaline casts
- D. White cell casts

ANS: A

A woman whose age is 24 years looking pale has lab results; Hb: 8.7gm/dl, RBC: Microcytic hypochromic; target cells present; serum iron normal; serum TIBC Normal. What is the diagnosis?

- A. Aplastic anaemia
- B. Thalassemia minor
- C. Folate deficiency anaemia
- D. Anaemia secondary to hemolysis
- E. Chronic alcoholism

ANS: B

Patient came to doctor and complaint of passing blood at the end of micturition. What investigation will be performed:

- A. Cystoscopy
- B. Urine CS
- C. IVP
- D. Ultrasound KUB
- E. None of the above

ANS: A

Which of the following is/are associated with the development of cystitis:

- A. Presence of indwelling catheters
- B. Trauma to the urinary tract
- C. Bladder diverticula
- D. Cyclophosphamide administration
- E. All of the above

ANS: E

Radioactive iodine is prescribed in The following conditions EXCEPT:

- A. Serious co-morbidity
- B. Patient greater than 40 years
- C. Recurrence following surgery
- D. Pregnancy, active Graves ophthalmopathy
- E. A&C

ANS: D



- A patient presents to you in the ER with right-sided weakness. His attendants tell you that his weakness started about 24 hours ago. CT scan was done which rules out haemorrhage. What will be your next plan?

A. IV fluids  
B. Antiplatelet therapy  
C. Thrombolytics  
D. Heparin

**ANS: B** Thrombolysis is only considered in ischemic CVA when patient presents within 4.5 hours of starting symptoms.

- A Patient comes to the clinic in emergency bite by the snake. In snake bite which test is for bleeding:

A. Bleeding time  
B. APTT  
C. FDPs  
D. PT  
E. All tests are important for this patient

**ANS: D**

- The most common microorganism associated with acute urinary tract infection is:

A. Proteus mirabilis  
B. E. coli  
C. S. aureus  
D. S. pneumoniae  
E. Pseudomonas

**ANS: B**

- Which of the following drug is a good IST choice for primary generalized epilepsy in a 20 year old male?

A. Valproate  
B. Lamotrigine  
C. Phenytoin  
D. Levetiracetam

**ANS: A**

- A 43-year-old man recently diagnosed with AIDS comes to the emergency department with pain on swallowing that has become progressively worse over the last several weeks. There is no pain when not swallowing. His CD4 count is 43 mm<sup>3</sup>. The patient is not currently taking any medications. What is the most appropriate next step in management?

A. Esophagram  
B. Upper endoscopy  
C. Oral nystatin swish and swallow  
D. Intravenous amphotericin  
E. Oral fluconazole

**ANS: E**

- What will be the findings in patients with oculomotor nerve supply?

A. Ptosis and constricted pupil  
B. Lateral gaze palsy  
C. Enlarged palpebral fissure  
D. Inability to see downward and outward  
E. Ptosis and dilated pupil

**ANS: E**

- A patient comes to the clinic with Mitral stenosis which of the following is the characteristic:
- A. Pre systolic accentuation
  - B. Sustained apex beat
  - C. Loud S2
  - D. None of the above
  - E. All of the above
- ANS: A**
- A pt presents with generalized tonic-clonic seizures in an emergency. Her CT scan was done which shows 5cm multicentric mass lesion in the right frontal lobe with vasogenic edema. What will be your diagnosis?
- A. Glioblastoma
  - B. Schwannoma
  - C. Astrocytoma
  - D. Ependymoma
- ANS: A**
- Subdural hemorrhage is most commonly:
- A. Arterial in origin
  - B. Venous in origin
  - C. MCA injury
  - D. PCA injury
- ANS: B**
- A Patient has hepatic adenoma. Investigation of choice for hepatic adenoma is:
- A. Ultrasound
  - B. CT scan
  - C. MRI
  - D. ERCP
- ANS: B**
- All of the following are commonly seen in AML except:
- A. Auer rods
  - B. Tdt positive blasts
  - C. Myeloperoxidase positive blasts
  - D. Specific esterase positive blasts
- ANS: B**
- A young boy presents in OPD with a dancing movement of arms. On examination, you find nodules around both elbows as well as skin rash. This dancing movement is known as:
- A. Hemiballism
  - B. Chorea
  - C. Athetosis
  - D. Tic douloureux
- ANS: B**
- DIC is a common and serious complication of:
- A. AML-M1
  - B. AML-M2
  - C. AML-M3
  - D. AML-M4
  - E. ALL-L3
- ANS: C**



- What is the single most accurate test for myeloma?
  - A. Skull x-rays
  - B. Bone marrow biopsy
  - C. 24-hour urine
  - D. SPEP
  - E. Urine immunoelectrophoresis (Bence-Jones protein)

ANS: B

- All of the following are common in CML except:
  - A. Splenomegaly
  - B. Basophilia
  - C. Philadelphia chromosome
  - D. High LAP
  - E. Translocation of C-abl oncogene

ANS: D

- ✚ A Pt presented with complaints of headache, fever, neck stiffness and seizure of one side of the body. Investigation should be?
  - A. MRI brain
  - B. EEG
  - C. CSF analysis

ANS: A

- ✚ A patient with extensive Pulmonary TB, suddenly developed facial puffiness with pedal edema and hepatomegaly. JVP was raised. What is the diagnosis if patient does not improve with ATT?
  - A. Poor intake and malnutrition
  - B. Amyloidosis + Nephrotic Syndrome
  - C. Intestinal TB with malabsorption
  - D. Constrictive Pericarditis

ANS: D

- ✚ Eosinophilia is associated with all of the following except:
  - A. Parasite infections
  - B. Viral infection
  - C. Hodgkin's lymphoma
  - D. Allergies

ANS: B

- ✚ CLL may be associated with:
  - A. Lymphocytosis
  - B. Smudge cells
  - C. Autoimmune hemolytic anemia
  - D. Monoclonal B cells
  - E. All of the above

ANS: E

- ✚ A group of sailors was rescued from a ship that was lost for a month. They lived on fish recovered from the sea. They were all fatigued and had gums bleeding on eating anything hard. What is the most likely cause?
  - A. Scurvy
  - B. Vitamin K deficiency
  - C. Ehlers-Danlos syndrome

- D. Osteogenesis imperfecta
- E. Marfan syndrome

ANS: A

Which of the following Signs will Confirm acute Pericarditis?

- A. Pericardial friction rub
- B. Raised JVP
- C. Raised BP on lying Supine
- D. Pulsus paradoxus

ANS: A

Investigation of Choice for aortic Dissection is:

- A. X-Ray Chest
- B. CT Angio
- C. Echocardiography
- D. ECG
- E. None

ANS: B

A 50-year-old female comes to general physician with complaints of difficulty in swallowing of both solids and liquids that progressively worsen over the last 3 months. Occasionally she has regurgitation of undigested food and night cough. she recently lost 5 kg. On physical examination, no remarkable findings were found. However, a chest x-ray reveals widened mediastinum. Your diagnosis?

- A. GERD
- B. Achalasia
- C. Pharyngeal pouch
- D. Esophageal CA
- E. Benign Stricture

ANS: B This patient presentation suggests **achalasia**. **Description:** Achlasia typical presentation is dysphagia for both liquids and solids, heartburn, food regurgitation, weight loss and nocturnal cough. Best initial is barium swallow and the confirmatory test is esophageal manometry

A 62-year-old man presented with complaint of difficulty in swallowing for the last several months. He also noticed a mass in the neck that increases in size while taking food. His brother also mentioned about his bad breath odour and occasionally regurgitation of undigested food. Which of the following will be your most appropriate investigation to reach a diagnosis?

- A. Bronchoscopy
- B. Upper GI endoscopy
- C. Neck mass biopsy
- D. Contrast esophagram

ANS: D The typical presentation of dysphagia with bad smell, regurgitation and neck mass are suggestive of Zenker diverticulum in which contrast esophagram is the diagnostic modality of choice as it clearly shows the diverticulum

A young girl with a history of sore throat and fever 101 F, not responding to antibiotics. Now presented to you with pains in various joints (which does not stay). Best test which aid in diagnosis will be?

- A. CBC with ESR, CRP
- B. Blood Culture
- C. RA Factor



- D. ASO titre  
E. Throat Swab Culture

ANS: D

- Which of the following condition is likely in the patient who presented to you with the following reports: Serum calcium-8mg/dl, Serum P04-3.2mg/dl and Alkaline phosphatase=500 units/L.

- A. Osteomalacia  
B. Hyperparathyroidism  
C. Osteoporosis  
D. Paget's disease of the bone  
E. Hyperthyroidism

ANS: D

Condition	Serum Calcium	Serum phosphate	Alkaline Phosphatase
<b>Osteoporosis</b>	Normal	Normal	Normal
<b>Paget's Disease</b>	Normal	Normal	High
<b>Osteomalacia</b>	Low	Low	High

Antituberculosis therapy. A month later he reports to you with jaundice. On stopping treatment jaundice has recovered. Now antituberculosis therapy has to be restarted which of the following drugs is least likely to be cause of his jaundice?

- A. Rifampicin  
B. Streptomycin  
C. INH  
D. Ethambutol  
E. Pyrazinamide

ANS: D

Drugs	Side Effects
<b>Isoniazid</b>	Hepatotoxicity Peripheral polyneuropathy Optic Neuritis
<b>Rifampin</b>	Hepatotoxicity Red-orange body fluids CYP-inducer
<b>Pyrazinamide</b>	Hepatotoxicity Hyperuricemia Arthralgia Myopathy
<b>Ethambutol</b>	Optic Neuritis
<b>Streptomycin</b>	Nephrotoxicity Ototoxicity Neuromuscular blockade

- ↓ A 69 yr old male presents with SOB in emergency and productive cough with pink frothy sputum. He tells you that SOB occurs during walking. On CXR, there is intra-alveolar shadowing and upper lobe diversion. What is the diagnosis?
- A. Acute Pulmonary Edema
  - B. Acute Severe Asthma
  - C. Acute Bronchitis
  - D. Massive Pleural Effusion
  - E. Mitral Stenosis

**ANS: A** Chest X-ray findings are consistent with Pulmonary edema: Intra-alveolar shadowing. And Upper lobe diversion.

- ↓ An old lady has chest pain and pain in her right arm occurring for the last many days but stays only for 10 minutes, then it gradually decreases. Cause:
- A. Pericarditis
  - B. Aortic dissection
  - C. MI
  - D. Angina
  - E. Anxiety

**ANS: D**

- ↓ To diagnose Parkinson's disease you require:
- A. Neurological examination
  - B. CT examination of brain
  - C. MRI examination of brain
  - D. CSF examination
  - E. Cerebral angiography

**ANS: A**

- ↓ A 50 yrs old smoker with chest pain for 6 hours radiating to arm with diaphoresis. Hemodynamically stable, ECG shows anterior wall MI (also Q waves). What is the best treatment for this patient in a tertiary care hospital?
- A. IV morphine
  - B. IV heparin
  - C. Streptokinase
  - D. TPA
  - E. PCI

**ANS: E**

- ↓ Three medical students went out to a restaurant. Four hours later they suffered from severe vomiting and diarrhea. Which is the most likely cause?
- A. Salmonella enteritis
  - B. Amoebic dysentery
  - C. Shigellosis
  - D. Malabsorption syndrome
  - E. Staphylococcal food poisoning

**ANS: E**

- ↓ A 12 yrs old girl presented to the emergency department with exertional SOB and palpitations on examination, she had clubbing, with a PSM at left sternal edge. CXR showed decreased peripheral markings oligemic lung fields. ECG has done showing RBBB. Mother told you that she adopt squatting position, your diagnosis:
- A. PDA
  - B. TOF



- C. VSD
- D. Transposition of great vessels
- E. Tricuspid atresia

**ANS: B**

- ✦ A young motorcyclist has a roadside accident. Following a brief period of loss of consciousness, he recovers. Two days later he starts having a headache and increasing weakness of the right half of the body. Which of the following is likely possibility:

- A. Extradural Haemorrhage
- B. Subarachnoid haemorrhage
- C. Brain abscess
- D. Meningitis
- E. Fracture of the base of the skull

**ANS: A**

- ✦ Cardiac abnormality associated with Rheumatoid Arthritis?

- A. Mitral regurgitation
- B. Mitral stenosis
- C. Aortic regurgitation
- D. Atrial stenosis

**ANS: C**

- ✦ An ICU admitted patient developed tall tented T-Wave and broad QRS complexes on ECG. Which should be done immediately?

- A. Chest X-Ray
- B. Serum Electrolytes
- C. ABGs
- D. Echocardiography

**ANS: B**

- ✦ A 40 years old woman has pain in fingers of Both hands, arthralgia and finger turn blue On exposure to cold. She also complains of the difficulty of swallowing food. Which is the most likely diagnosis:

- A. Systemic sclerosis
- B. Reynaud's disease
- C. Cervical rib
- D. Rheumatoid arthritis
- E. Oesophageal tumour

**ANS: A**

- ✦ TOF is a:

- A. Acyanotic heart disease
- B. Cyanotic heart disease
- C. Autosomal dominant pattern
- D. Cardiomyopathy

**ANS: B**

- ✦ Postural drainage has important role in treatment of:

- A. Asthma
- B. COPD
- C. Bronchiectasis
- D. Pleural effusion
- E. Tuberculosis

**ANS: C**

- Which of the following types of hepatitis is associated with an immune mediated vasculitis characterized by p-ANCA antibodies?
- A. Hepatitis A
  - B. Hepatitis B
  - C. Hepatitis C
  - D. Hepatitis D
  - E. Hepatitis E
- ANS: B

- Major Criteria for Rheumatic Fever Include:
- A. Raised ESR
  - B. Fever
  - C. Increased PR Interval
  - D. Sinus Tachycardia
  - E. Erythema marginatum
- ANS: E

- Patients with Parkinson's disease have:
- A. Fine tremors at rest
  - B. Intention tremors
  - C. Nystagmus
  - D. Bradykinesia
  - E. Brisk reflexes
- ANS: D

- Which Connective tissue disease among the following causes death by hypertensive renal disease?
- A. RA
  - B. Scleroderma
  - C. MCTD
- ANS: B

- In a patient with suspected transient Ischemic attack full recovery should take place within:
- A. 6 Hours
  - B. 12 Hours
  - C. 18 Hours
  - D. 24 Hours
  - E. 48 Hours
- ANS: D

- 65 yr old male has complained of a right sided headache. On examination, tenderness was present, right temporal artery is palpable. His ESR is 130. CT brain is normal, the most appropriate next step is:
- A. CSF Analysis
  - B. Temporal Artery Biopsy + IV Steroids
  - C. MRI Brain
  - D. ECG
- ANS: B

- Retrobulbar neuritis is a known feature of:
- A. Multiple Sclerosis
  - B. Motor neuron disease
  - C. Polio



- D. G.B syndrome
- E. Bell's palsy

**ANS: A**

- ✚ 60 yr old female presents with blanching of fingers on cold exposure since childhood. Now there is increasing edema of hands and fingertips infarcts and heart failure. What is your diagnosis?

- A. Sarcoidosis
- B. Scleroderma
- C. Primary Raynaud disease
- D. Mixed Connective tissue disease
- E. Dermatomyositis

**ANS: B**

- ✚ A 40 years old man has developed a recurrent headache which is limited to the left side and wakes him from sleep. It lasts for several hours and his cheeks and nostril feels congested. Most likely diagnosis in this man is:

- A. Migraine without aura
- B. Facioplegic migraine
- C. Trigeminal neuralgia
- D. Cluster headache
- E. Brain tumour

**ANS: D**

- ✚ Causes of adrenal insufficiency are all Except:

- A. DM
- B. Sarcoidosis
- C. AIDS
- D. Meningococemia
- E. Hemochromatosis

**ANS: A**

- ✚ Pyoderma gangrenosum is a known Manifestation of:

- A. Coeliac disease
- B. Venous thrombosis
- C. Ulcerative colitis
- D. Zollinger Ellison syndrome
- E. Malignancy

**ANS: C**

- ✚ A woman with metastatic lung cancer develops profound weakness with alternating diarrhea and constipation. Physical examination shows hyperpigmentation of skin even in areas protected from the sun. Which endocrine organ is involved in the tumour?

- A. Pituitary gland
- B. Adrenal gland
- C. Endocrine pancreas
- D. Ovaries
- E. Thyroid gland

**ANS: B**

- ✚ A 21 yr old girl complained of weakness, exertional dyspnoea and bleeding from the gums. On examination she was pale, febrile and showed gum hypertrophy along with

hepatosplenomegaly. CBC showed HB 6.7 gm/dl, TLC of 35,000/mm<sup>3</sup>, platelets were 20,000/mm<sup>3</sup> and DLC revealed 6% blast cells. Diagnosis is:

- A. Immune thrombocytopenia
- B. Factor IX deficiency
- C. Acute lymphoblastic leukaemia
- D. Acute myeloblastic leukaemia
- E. Chronic myeloid leukaemia

ANS: D

For acute asthma, Short acting Bronchodilator:

- A. Salmeterol
- B. Formoterol
- C. Albuterol
- D. Tiotropium
- E. A and B

ANS: C Albuterol also known as salbutamol, is used as a short acting bronchodilator for the treatment of acute attack of asthma. It is also used in acute attacks of exercise induced bronchospasm and COPD. It is a short acting selective beta2-adrenergic agonist. Asthma: It is a condition of chronic airway obstruction which leads to wheezing and difficult breathing. **Treatment in case of acute attack:** If you receive a patient in emergency, first thing to do is to assess the patient's condition and depending upon it, start salbutamol nebulization. After it depending upon patient's condition following medications are added:

- **Corticosteroids.** They help to reduce lung inflammation and help to control asthma. Corticosteroids can be given orally or intravenously in case of patients having vomiting or who are experiencing respiratory failure.
- **Ipratropium (Atrovent HFA).** Ipratropium is sometimes used as a bronchodilator to treat a severe asthma attack, especially if albuterol is not fully effective.
- **Magnesium Sulphate I.V.** It can be used in patients whose asthmatic attack was resistant to Ipratropium bromide. It acts by decreasing free calcium in smooth muscles and relaxes them, stabilizes the mast cells and prevents histamine release.
- **Intubation, mechanical ventilation and oxygen.** If asthmatic attack is life-threatening, the doctor may put the patient on artificial respiration.

★ Especially good for Aspirin Induced Asthma:

- A. Albuterol
- B. Montelukast
- C. Theophylline
- D. Zileuton
- E. Salmeterol

ANS: B

★ Which one sulphonylurea cannot cross placenta:

- A. Glipizide
- B. Tolbutamide
- C. Chlorpropamide
- D. Glimepiride
- E. Glibenclamide

ANS: E Glibenclamide (Doanil), which is one of the only 3 anti-diabetic drugs that are allowed in pregnancy along with Insulins and metformin

*Last Days Revision Notes for IMM Medicine & MRCP 2nd edition*



✚ All of the following are associated with sickle cell anemia except:

- A. Painful crisis
- B. Autosplenectomy
- C. 40% haemoglobin A
- D. Renal papillary necrosis
- E. Gandy-gamma bodies

ANS: C

✚ A 46-year-old woman with a thyroid nodule is found to have normal thyroid function testing. The fine needle aspirate comes back as "indeterminant for follicular adenoma." What is the most appropriate next step in the management of this patient?

- A. Neck CT
- B. Surgical removal (excisional biopsy)
- C. Ultrasound
- D. Calcitonin levels

ANS: B

✚ Mr. XY came to the doctor clinic with a dilated pupil and persistent lateral gaze. What could be:

- A. Miller Fisher syndrome
- B. 3d nerve palsy
- C. 6 nerve palsy
- D. Myasthenia gravis

ANS: B

✚ The most common autoantibody in pernicious anemia is

- A. Coombs antibody
- B. Binding antibody
- C. Parietal cell canalicular antibody
- D. ANA antibody (antinuclear)
- E. Antithyroid antibody

ANS: C

✚ A 46-year-old woman comes to the office because of a small mass she found on palpation of her own thyroid. A small nodule is found in the thyroid. There is no tenderness. She is otherwise asymptomatic and uses no medications. What is the most appropriate next step in the management of this patient?

- A. Fine-needle aspiration
- B. Radionuclide iodine uptake scan
- C. T4 and TSH levels
- D. Thyroid ultrasound
- E. Surgical removal (excisional biopsy)

ANS: C

✚ A 30 yr old female is referred to you for preoperative clearance before elective knee surgery. She has a life long history of easy bruising, occasional nose bleeds and heavy menstrual periods. Her family history includes easy bruising and excessive menstrual periods in both her mother and sister. There is no history of medications and her physical examination is unremarkable. Screening laboratory studies show a PT of 11 sec (normal= 10.5-11.5), PTT of 57 sec(normal=24.5-34.5), platelet count of 280,000(normal= 150,000-400,00/mm<sup>3</sup>), bleeding time 20 min (normal=2.3-9.5 mint) and thrombin time of 11 sec(normal=10.7- 12.9 sec). which of the following is the most likely diagnosis:

- A. Hemophilia A (factor VIII deficiency)
- B. Von Willebrand's disease
- C. Idiopathic thrombocytopenic purpura
- D. Disseminated intravascular coagulation

ANS: B

- ✦ A 60 yr old female presents to her family physician with a 60,000 white cell count, autoimmune hemolytic anemia and lymphocytosis. The most likely diagnosis is:

- A. Acute lymphoblastic leukaemia
- B. Chronic lymphoblastic leukaemia
- C. Multiple myeloma
- D. Hodgkin lymphoma

ANS: B

- ✦ Miss Nosheen who is 39 years old presents with dry cough and shortness of breath from 3 days preceded by flu-like symptoms. On examination, there is a symmetrical erythematous rash with target lesions over the whole body. The organism could be:

- A. Legionella pneumophila
- B. Pseudomonas
- C. Mycoplasma pneumoniae
- D. Staphylococcus aureus
- E. A&D

ANS: C

- ✦ A 48-year-old woman comes to the office with chest pain that has been occurring over the last several weeks. The pain is not reliably related to exertion. She is comfortable now. The location of the pain is retrosternal. She has no hypertension, and the EKG is normal. What is the most appropriate next step in management?

- A. CK-MB
- B. Troponin
- C. Echocardiogram
- D. Exercise tolerance testing
- E. Angiograph

ANS: D

- ✦ A 45 yr old engineer presents to his family physician with fatigue and massive splenomegaly. A CBC reveals lymphocytosis with abnormal lymphocytes in the peripheral blood. The abnormal cells contain tartrate resistant acid phosphatase. What is the most likely diagnosis:

- A. Hairy cell leukaemia
- B. ALL
- C. CLL
- D. Sezary syndrome
- E. Follicular lymphoma

ANS: A

- ✦ Abnormal Schilling tests may be seen in patients with:

- A. Folate deficiency
- B. Iron deficiency
- C. Sickle cell anemia
- D. Chronic atrophic gastritis
- E. Hereditary spherocytosis

ANS: D

- ✦ In stokes adam attacks will have followings:



- A. 2nd degree heart block
- B. 1<sup>st</sup> degree heart block
- C. Complete heart block
- D. A&B

ANS: C

- ✦ Which of the following is true regarding XDR tuberculosis:

- A. Resistance to second-line tuberculosis drugs
- B. Resistance to all tuberculosis drugs
- C. Resistance to INH, Rifampicin, and aminoglycosides
- D. Resistance to INH, Rifampicin, and aminoglycosides and fluoroquinolones
- E. A&C

ANS: D

- ✦ Complications of Paget disease include:

- A. Pathological fracture
- B. High output cardiac failure
- C. Osteosarcoma
- D. All of the above

ANS: D

- ✦ Most prominent feature of *S. aureus* poisoning is:

- A. Fever
- B. Diarrhea
- C. Dysentery (bloody diarrhea)
- D. Vomiting
- E. Abdominal pain

ANS: D

- ✦ Most common location of duodenal ulcer is:

- A. Posterior wall
- B. Junction of the duodenum and jejunum
- C. Anterior wall
- D. Duodenal cap
- E. A&D

ANS: C

- ✦ A patient has signs and symptoms of Peripheral neuropathy. Which peripheral neuropathy is associated with demyelination:

- A. Vitamin B12 deficiency
- B. Iron deficiency
- C. Diabetes mellitus
- D. Alcohol
- E. Vasculitis

ANS: A

- ✦ Which of the following is the most sensitive test of CSF for neurosyphilis?

- A. VDRL
- B. RPR
- C. FTA
- D. Stain
- E. Darkfield

ANS: C

- ✚ A 60 yr old male presents with cutaneous lymphoma composed of CD4 (T4) lymphocytes. The cells had "cerebriform nuclei" and were Tdt negative. What is your diagnosis:

A. Small lymphocytic lymphoma  
 B. Burkitt lymphoma  
 C. Lymphoblastic lymphoma  
 D. HIV infection  
 E. Mycosis fungoides

ANS: E

- ✚ Patient came to the hospital with polyuria, polyphagia, and polydipsia. Which test is best to diagnose diabetes mellitus:

A. Urine DR  
 B. RBS  
 C. HBA1C  
 D. FBS  
 E. All of the above

ANS: D

- ✚ Recurrent duodenal ulcer are caused by:

A. Islet cell tumours  
 B. Pernicious anemia  
 C. Lymphoma  
 D. Salmonella infection  
 E. H. pylori

ANS: E

- ✚ Alpha 1 antitrypsin deficiency is associated with:

A. Interstitial emphysema  
 B. Panacinar (panlobular) emphysema  
 C. Bullous emphysema  
 D. Centrilobular emphysema  
 E. Aging lung (senile emphysema)

ANS: B

- ✚ A patient of hypothyroidism, started thyroxine, when will you ask her to repeat TSH again?

A. 6 weeks  
 B. 6 months  
 C. 3 weeks  
 D. 3 months

ANS: A

- ✚ Most common treatment of anemia in CRF is:

A. Folic acid  
 B. Oral iron  
 C. Parenteral Iron  
 D. Erythropoietin  
 E. Vitamin A

ANS: D

- ✚ What is the most accurate test of Herpes encephalitis?

A. Brain biopsy  
 B. PCR of CSF  
 C. MRI



- D. Viral culture of CSF
- E. Tzanck prep

**ANS: B**

- ✦ A diabetic obese patient presents to you with fasting blood sugar level of 180. His HBA1C=8.6. How will you treat him?

- A. Insulin
- B. Pioglitazone
- C. Biguanides
- D. Metformin

**ANS: D**

- ✦ How to diagnose Sheehan Syndrome?

- A. Pituitary function test
- B. ACTH stimulation test
- C. Growth hormone function test
- D. MRI pituitary gland

**ANS: A**

- ✦ A young healthy male married for 5 years. He is presented to you in a fertility clinic with a sperm count of 100/ml. Your next best test will be:

- A. Testosterone
- B. Testicular biopsy
- C. LH+FSH
- D. Pituitary MRI

**ANS: C**

- ✦ A diabetes patient presents to you in diabetic clinic. He is also a known case of coronary artery disease. Your treatment of choice:

- A. Short-acting insulin
- B. Sulfonylurea
- C. Long-acting insulin
- D. Biguanides

**ANS: C**

- ✦ How to confirm the diagnosis of insulinoma?

- A. Supervised fasting
- B. Early morning c peptide level
- C. Insulin tolerance test
- D. Oral glucose tolerance test
- E. None of the above

**ANS: A**

- ✦ A young female who was recently diagnosed of having grave's disease presented to you in OPD with eye pain and reduced vision. She had started taking treatment for grave's disease about a week ago. What do you think is the reason for her newly developed symptoms?

- A. Propylthiouracil
- B. Carbimazole
- C. Thyroidectomy
- D. Radioiodine treatment

**ANS: D**

- ✦ An old male with hyperthyroidism. Best treatment for him?

- A. Surgery
- B. Antithyroid drugs
- C. Beta-blocker
- D. Radioactive iodine

ANS: D

- ✚ Which one of the following indicate Severity of Disseminated intravascular Coagulation:

- A. Increase FDP
- B. Decrease plat level
- C. Increase PT and APTT
- D. Decrease fibrinogen level
- E. Increase APTT

ANS: D

- ✚ A 30 yr old male died suddenly when he experienced a sudden rise in blood pressure. At autopsy, the ruptured vessel completely lacked the tunica media at the point of an aneurysm. What is your diagnosis?

- A. Berry aneurysm
- B. Mycotic aneurysm
- C. Luetic aneurysm
- D. Marfan syndrome
- E. Dissecting aneurysm

ANS: A

- ✚ A female diagnosed case of grave's disease presents to you. She was concerned about her eye disease. What is the best way to reduce the risk of developing thyroid eye disease?

- A. Reduce alcohol intake
- B. Regular exercise
- C. Stop smoking
- D. Vitamin A rich food
- E. Omega 3 fatty acid-rich food

ANS: C

- ✚ A patient presents with proximal myopathy and HTW. His serum cortisol level did not suppress on low dose dexamethasone suppression test but suppressed on high dose dexamethasone suppression test. Plasma ACTH is raised. What is your diagnosis?

- A. Cushing disease
- B. Cushing syndrome
- C. Adrenal adenoma
- D. Ectopic ACTH

ANS: A

- ✚ A man with a history of prostate cancer comes to the emergency department with severe back pain and leg weakness. He has the tenderness of the spine, hyperreflexia, and decreased sensation below his umbilicus. What is the most appropriate next step in the management of this patient?

- A. Dexamethasone
- B. MRI
- C. X-ray
- D. Radiation
- E. Flutamide

ANS: A



4. What is the most common cause of thyroiditis?

- A. Riedel thyroiditis
- B. Bacterial thyroiditis
- C. Postpartum thyroiditis
- D. Hashimoto thyroiditis
- E. Subacute thyroiditis

ANS: D

A Female presented to you in OPD with a swelling in her neck. She was otherwise asymptomatic. On examination, she has a 2cm nodule in her thyroid gland. With no associated lymphadenopathy. Her TFTs were within the normal range. Best next step is:

- A. Thyroid scan
- B. Repeat assessment in 6 months
- C. FNAC
- D. Partial thyroidectomy
- E. Radioiodine therapy

ANS: C

4. A feature of Hypothyroidism:

- A. Acanthosis Nigricans
- B. Palmar Erythema
- C. Eruptive Xanthoma
- D. Alopecia
- E. Dupuytren Contracture

ANS: D

4. Which is the most common heart valve to get calcified:

- A. Pulmonary
- B. Aortic
- C. Tricuspid
- D. Mitral
- E. None of the above

ANS: B

4. Absolute contraindications for liver transplant include all Except?

- a. Uncontrolled infection
- b. Active alcohol or substance abuse
- c. Non melanoma skin cancer
- d. Brain death
- e. Lack of psychological support

ANS: C

4. What is an absolute contraindication for the liver transplant?

- a. Previous breast cancer
- b. Active tuberculosis
- c. Cystic fibrosis
- d. Portal vein thrombosis
- e. Active substance abuse

Absolute contraindications of liver transplant:

1. Uncontrolled extra-hepatobiliary infection
2. Active untreated sepsis
3. Uncontrollable life threatening congenital anomaly
4. Extrahepatobiliary malignancy (not including non-melanoma skin cancer)
5. Metastatic malignancy to the liver
6. Cholangiocarcinoma
7. AIDS

ANS: B

- What are the possible indications of liver transplantation in case of primary biliary cirrhosis?
- Uncontrolled pruritis
  - Bilirubin level over 50 mmol/l
  - One episode of variceal bleed

ANS: A

- What is the absolute contraindication of ETT?
- Life threatening arrhythmias
  - Heart rate greater than 140
  - Bp greater than 150/90
  - None of the above

ANS: A

- What is the early feature of Alzheimer disease?
- Short term memory loss
  - Hallucination
  - Tremors
  - Ataxia

ANS: A



#### Alzheimer's disease

Alzheimer's disease is a primary degenerative cerebral disease of unknown aetiology and accounting for over 65% of dementia in any age group. There are characteristic pathological features, which include neuronal reduction in several areas of the brain, neurofibrillary tangles, argentophile plaques, consisting largely of amyloid protein, and granulovacuolar bodies.

#### Clinical features

There is an insidious onset with steady progression over years. Short-term memory loss is usually the most prominent early symptom, but subsequently there is slow disintegration of the personality and intellect, eventually affecting all aspects of cortical function. There is decline in language (difficulty in naming and in understanding what is being said), visuospatial skills, apraxia (impaired ability to carry out skilled motor tasks) and agnosia (failure to recognize objects, e.g. clothing, people, places).

D. Proximal myopathy

ANS: D

- What is the cause of villous atrophy in celiac disease?
- IL-1
  - IL-6
  - Interferon gamma
  - TNF-alpha

ANS: C

Reference: Khaled El magraby



### Coeliac disease

The prevalence of coeliac disease is 1% in western societies and is thus one of the commonest immune-mediated diseases.

The prevalence of coeliac disease in Europe varies widely and is in the region of between 1:100 and 1:300 and as much as 1:30 in the west of Ireland. It is more common in the Celtic population.

Coeliac disease is caused by sensitivity to the protein gluten.

The condition is caused by an immunological reaction to the gliadin, a protein fraction of gluten found in wheat, which provokes an inflammatory response and results in partial or total villous atrophy in the proximal small bowel (which resolves with a gluten-free diet).

It can present at any age (peaks occur in babies and in the third decade). Women are slightly more commonly affected.

Repeated exposure leads to villous atrophy which in turn causes malabsorption.

Conditions associated with coeliac disease include dermatitis herpetiformis (a vesicular, pruritic skin eruption) and autoimmune disorders (type 1 DM and autoimmune hepatitis).

It is strongly associated with HLA-DQ2, HLA-DQ8 (95% of patients) and HLA-B8 (80%) as well as HLA-DR3 and HLA-DR7, and also from the specific immune response to the alpha-gliadin component of gluten.

The action of tissue transglutaminase (TTG) on alpha-gliadin generates epitopes to CD4+ T-lymphocytes, which provoke an inflammatory response in the intestinal wall.

In untreated individuals, alpha-gliadin specific CD4+ T cells can be found producing interferon-gamma in the intestinal wall.

Coeliac disease results from small bowel inflammation and atrophy due to T cell mediated hypersensitivity reaction to the alpha-gliadin component of gluten. Other T-cell mediated autoimmune disorders may be associated with coeliac disease: Type 1 DM, dermatitis herpetiformis and **Hashimoto's thyroiditis**.

In 2009 NICE issued guidelines on the investigation of coeliac disease. They suggest that the following patients should be screened for coeliac disease:

- 34 year old man with the history of liver cirrhosis secondary to hepatitis B infection is admitted with upper GI bleeding. He is treated with terlipressin and endoscopic band ligation. Which further intervention has been shown to reduce mortality in this patient?

- a. Antibiotic prophylaxis
- b. LMWH
- c. NG feeding
- d. IV labetalol
- e. High dose PPIs

**ANS: A**      **Reference:** uptodate and pass medicine

- Female with family history of thrombotic events presented with left calf swelling, what will be the initial treatment option?

- a. LMWH
- b. Warfarin
- c. Streptokinase
- d. Aspirin

**ANS: A**

- 16 year old male presented with seizures. O/E he is having some nodules on the nasolabial folds and face and some plaque like lesions on the back. Family history is not significant. What is your diagnosis?

- a. Von Ricklinghausen disease
- b. Tuberous sclerosis
- c. Sturge weber syndrome
- d. Osler weber rendu syndrome

**ANS: B**

Features of neurocutaneous syndromes are given below in detail.



## Neurocutaneous Syndromes

### Neurofibromatosis Type I (von Recklinghausen Disease)

- Autosomal dominant disease characterized by café au lait spots, neurofibromas, CNS tumors (gliomas, meningiomas), axillary or inguinal freckling, iris hamartomas (Lisch nodules), bony lesions.
- Cutaneous neurofibromas—may be disfiguring.
- Complications include scoliosis, pheochromocytomas, optic nerve gliomas, renal artery stenosis, and erosive bone defects. Musculoskeletal manifestations include spinal deformity and congenital tibial dysplasia.
- Complications may require treatment. Surgically excise any symptomatic neurofibromas.

### Neurofibromatosis Type II

- Autosomal dominant disease; less common than type I neurofibromatosis.
- Clinical features include bilateral (sometimes unilateral) acoustic neuromas (classic finding), multiple meningiomas, café au lait spots, neurofibromas (much less common than type I), and cataracts.

### Tuberous Sclerosis

- Usually autosomal dominant.
- Presents with cognitive impairment, epilepsy, and skin lesions (including facial angiofibromas, adenoma sebaceum).
- Retinal hamartomas, renal angiomyolipomas, and rhabdomyomas of the heart may also be present.
- Treat complications.

### Sturge-Weber Syndrome

- Acquired disease.
- Key pathologic feature is the presence of capillary angiomas of the pia mater.
- Classic feature is facial vascular nevi (port-wine stain).
- Epilepsy and mental retardation are usually present.
- Treatment of epilepsy is often the mainstay of treatment.

### Von Hippel-Lindau Disease

- Autosomal dominant.
- Important features are cavernous hemangiomas of the brain or brainstem, renal angiomas, and cysts in multiple organs.
- Associated with renal cell carcinoma.
- Associated with pheochromocytomas.

### Causes of Charcot joints

↓ Which of the following is not the cause of Charcot joints?

- ALS
- Tabes dorsalis
- Syringomyelia
- Leprosy

ANS: A

- DM
- Syphilis
- Syringomyelia
- Spinal cord injury
- Pernicious anemia
- Leprosy
- Peripheral nerve injury

⚡ A 17-years-old girl presented with difficulty in combing hairs and climbing upstairs for 6 months. She has maculopapular rash over metacarpophalangeal joints. What should be the next appropriate investigation to be done? Select one

- a. Muscle biopsy
- b. Antinuclear antibodies (ANA)
- c. Myositis-specific antibodies
- d. Chest X-Ray
- e. Creatine phospho Kinase (CPK)

ANS: E Next appropriate is CPK and best is muscle biopsy

⚡ A 20-year-old white man has noted an uneven tan over upper back and chest. On examination he has many lighter macules with a barely visible scale that coalesce larger areas. The best test procedure to establish the diagnosis is a Select one

- a. Potassium hydroxide (KOH) microscopic examination
- b. Tzank smear
- c. Punch biopsy
- d. Dermatophyte test medium (DTM) culture for fungus
- e. Serological test for syphilis

ANS: A

⚡ Pure motor neuropathy is seen in?

- a. DM
- b. Uremia
- c. GBS
- d. Myasthenia Gravis

ANS: C

⚡ 60 year old male patient with chief complaints of Proximal muscle weakness and gradually progressive dysphagia. His CK level is raised, the most appropriate investigation is?

- a. EMGs
- b. NCs
- c. Muscle biopsy
- d. CT of the neck

ANS: C

⚡ A 55 year old female patient with decompensated cirrhosis presented with pain abdomen and abdominal distention. O/E she is jaundiced and she is having ascites, the most appropriate diagnosis is?

- a. SBP
- b. HCC
- c. Portal vein thrombosis

#### Causes of predominant motor neuropathy

- ⚡ Lead poisoning
- ⚡ HSMN
- ⚡ Porphyrria
- ⚡ CIDP
- ⚡ GBS
- ⚡ Diphtheria

#### Casuses of predominant sensory neuropathy

- ⚡ DM
- ⚡ Uremia
- ⚡ Leprosy
- ⚡ Alcoholism
- ⚡ Amyloidosis
- ⚡ Vitamin-B12 deficiency



d. None of them

ANS: A

- ✚ A 40 year old female who is known case of polycythemia rubra vera presented with A/C of pain abdomen and abdominal distention, on examination she is jaundiced and has ascites, what is the most likely diagnosis?

- a. Portal vein thrombosis
- b. Hepatic vein thrombosis
- c. Hepatic artery thrombosis
- d. SVC obstruction

ANS: B

**Causes of Budd-Chiari syndrome includes**

- ✚ Hematological disorders
- ✚ Inherited thrombotic disorders
- ✚ Pregnancy
- ✚ OCPS
- ✚ Tumors
- ✚ Post surgical obstruction
- ✚ Post traumatic
- ✚ Chronic infections

- ✚ A young boy with recurrent episodes of transient loss of consciousness lasting for half a minute with extreme pallor the most appropriate investigation to reach the diagnosis is?

- a. ECG
- b. ECHO
- c. Angiography
- d. Holter monitoring

ANS: D

- ✚ A 25 year young male patient presented to the ER department with the history of transfusion reaction, he is dyspneic and cyanosed with cold peripheries and BP of 90/70, the most immediate treatment to be given is?

- a. Salbutamol
- b. Adrenaline
- c. Noradrenaline
- d. Normal saline
- e. Hydrocortisone

ANS: B

**Management of Anaphylactic reaction**

- ✚ Stop transfusion
- ✚ ABC
- ✚ Administer adrenaline, diphenhydramine, and hydrocortisone
- ✚ Maintain IV volume
- ✚ Vital monitoring

- ✚ A 50 year old male patient presented with purpuric rash 24 hours after undergoing coronary angiography the immediate next investigation that should be done is?

- a. BT and CT
- b. CBC

- c. RFTS
- d. PT

**ANS: C** In Contrast induced nephropathy serum creatinine usually begins to rise within 24 hours of procedure, peaks between 3 to 5 days and returns to the base line within 7 to 10 days.

- ✦ A middle aged male smoker complains of heaviness in left arm after brisk walking and his ECG is normal, the most appropriate test to reach the diagnosis is?
  - a. ECHO
  - b. Angiography
  - c. ETT
  - d. Plethysmography

**ANS: C**

- ✦ Young patient is taking OCPs gets contact with meningococcal meningitis patient, what is the most appropriate prophylaxis for him?
  - a. Doxycycline
  - b. Cotrimoxazole
  - c. Ciprofloxacin
  - d. Rifaxamine

**ANS: C**

- ✦ Hepatitis C patient has right sided hydrothorax and refractory ascites. What is the best treatment option?
  - a. Recurrent paracentesis
  - b. Albumin infusion
  - c. TIPS
  - d. Liver transplant

**ANS: D**

- ✦ 20 year old patient is having history of cataract surgery in the past now presented with epilepsy. His serum calcium is 7.2 mg, What is your diagnosis?
  - a. Hypoparathyroidism
  - b. CRF
  - c. Vitamin D deficiency
  - d. None of them

**ANS: A**

- ✦ A young patient presented to the ER department with the history of fever and RHC pain from past 10 days, now he suddenly he got short of breath and right sided chest pain, what is your diagnosis?
  - a. Ruptured hepatic abscess
  - b. Acute hepatitis
  - c. Abdominal aortic aneurysm



- d. MI
- e. Pulmonary embolism

ANS: A

- ✦ 56 year old male patient presented with history of tremors of hands, slowness in walking and no abnormality in mental function what is your diagnosis?

- a. Parkinson disease
- b. Huntingtons disease
- c. Alzheimers disease
- d. None of them

ANS: A

- ✦ Which of the following investigation should be done to confirm the diagnosis of polymyositis?

- a. NCS
- b. EMG
- c. CPK
- d. Muscle biopsy

ANS: D

- ✦ Young male patient went on a holiday and stayed in a hotel, he came back with chest infection and diarrhea, what is the most likely causative organism involved?

- a. Legionella
- b. Pseudomonas
- c. Streptococcus
- d. Ecoli

ANS: A

- ✦ Which of the following is the best test for the diagnosis of DVT?

- a. Doppler U/S
- b. Venography
- c. D-diamers
- d. INR

ANS: B

- ✦ 12 year old child presented with history of exertional dyspnea, his mother says he adopts squatting position, on examination there is murmur at the left sternal edge, what is your diagnosis?

- a. Aortic stenosis
- b. VSD
- c. Fallots teratology
- d. Transposition of great vessels
- e. PDA

ANS: C

4. Young male patient got femur fracture and he was discharged from hospital 1 month back with POP, now he developed hemoptysis and chest pain. His chest Xray shows small pleural effusion, what is the most likely cause?

- a. Sarcoidosis
- b. Tuberculosis
- c. Fat embolism
- d. TB
- e. Pulmonary embolism

ANS: E

4. 30 year old female in third trimester presented to the emergency department with shortness of breath. Labs shows microcytic hypochromic anemia and target cells on peripheral smear, what is the most likely diagnosis?

- a. B12 deficiency
- b. Thalassemia
- c. Iron deficiency anemia
- d. Sideroblastic anemia

ANS: C

4. 40 year old male patient who is known case of CKD presented with acute attacks of gout which of the following drug should be given to this patient?

- a. NSAIDS
- b. Steroids
- c. Colchicine
- d. Febuxostat

ANS: C

NSAIDs should be avoided in impaired renal function. The first line treatment for acute gout is (NSAID) or colchicine. In renal impairment NSAID would be contraindicated.

**Colchicine is safe to use in renal impairment.** NSAIDs are relatively contraindicated in congestive cardiac failure. Corticosteroids are highly effective, and can be used where NSAIDs are not tolerated, or in refractory disease (intra-articular, oral, intramuscular, intravenous).

4. 50 year old male patient presented with acute attack of painful knee joint, joint aspirate shows positive birefringent crystals, what is the most likely diagnosis?

- a. Gout
- b. Hemochromatosis
- c. Rheumatoid arthritis
- d. Pseudogout



**ANS: D**

- ✦ 50 year old male patient presented in emergency department with complaints of right sided body weakness, Examination reveals ptosis and dilated pupil in the left eye. What is the most likely diagnosis?

- a. Weber syndrome
- b. Lateral medullary syndrome
- c. Medial medullary syndrome
- d. Spinal cord infarction

**ANS: A**

- ✦ 30 year old male patient presented with history of diarrhoea for the last 10 days along with the joint pains, microscopy of the colonocopy biopsy shows positive PAS staining, what is the most likely diagnosis?

- a. Whipple disease
- b. UC
- c. Celiac disease
- d. IBS
- e. Adenoma

**ANS: A**

- ✦ 16 year old male presented with the history of pain in the bilateral knee joints, he is having the history of diarrhoeal illness 10 days ago. What is the most likely diagnosis?

- a. Whipple disease
- b. Reactive arthritis
- c. Ulcerative colitis
- d. Psoriatic arthritis

**ANS: B**

- ✦ 20 year old married female presented with 3 months history of amenorrhoea, she is having history of hypertension for the last 7 years, which of the following drug can worsen her Blood pressure?

- a. ACEis
- b. CCB
- c. Methyldopa
- d. Beta-blockers

**ANS: A** Hypertension in young female renal artery stenosis should be ruled out (fibromuscular dysplasia). ACEis are contraindicated in pregnancy.

- ✦ 30 year old male patient presented with facial palsy and swollen right knee joint, Examination also reveals erythema migrans. What is your diagnosis?

- a. Lyme disease

- b. Gout
- c. Reactive arthritis
- d. SLE

ANS: A

4. A young female who is using OCPs presented with the history of SOB and pleuritic chest pain, O/E she is only mildly tachycardic. Her ECG will most likely show?

- a. Right ventricular strain pattern
- b. Left ventricular strain pattern

ANS: A

#### ECG findings in case of pulmonary embolism

- ❖ Sinus tachycardia
- ❖ Non specific ST segment and T wave changes
- ❖ Complete or incomplete RBBB
- ❖ Right ventricular strain pattern
- ❖ Dominant R wave in V1
- ❖ Right atrial enlargement (cor pulmonale)
- ❖ Atrial tachy dysarrhythmias

4. Patient presented with one week history of fever and ASOC. These symptoms started after the the start of antipsychotic drugs. O/E there was generalized rigidity. CSF examination reveals proteins of 55mg/dl with normal glucose. what is the most likely diagnosis?

- a. NMS
- b. Viral encephalitis
- c. Parkinson disease
- d. Alzheimers disease

ANS: A

4. 30 year old male patient of AIDS is taking antiretroviral therapy including Indinavir developed hematuria and lumbar pain. CT shows radiodense renal stones, what will be the composition of these stones?

- a. Calcium oxalate
- b. Uric acid
- c. Struvate stones
- d. None of them

ANS: A

**Protease inhibitors (PI)** (vir at the end) Examples: indinavir, nelfinavir, ritonavir, saquinavir **side-effects:** include diabetes, hyperlipidaemia, Hypertriglyceridaemia, buffalo hump, central obesity, P450 enzyme inhibition— lipodystrophy, **indinavir:** renal stones, asymptomatic hyperbilirubinaemia, **Ritonavir:** a potent inhibitor of the P450 system (3A4 inhibitor) produces very significant elevations in plasma fluticasone (even an inhaled— preparation). These levels are sufficient to suppress endogenous cortisol levels and produce Cushing's syndrome.



- ↓ 30 year old female who is known case of T1DM has no other complications except microalbuminuria, she wants to become pregnant and seeks your advice. What will be the effect of pregnancy on her kidney functions?

- a. No effect
- b. It may worsen kidney function
- c. Worsen in pregnancy and then rapidly improve
- d. None of them

ANS: B

- ↓ 45 year old female is a known case of RA for 10 years, she is using painkillers during this period, what is the most likely cause of renal disease in this patient?

- a. Amyloidosis
- b. NSAIDs
- c. Glomerulonephropathy
- d. Tubular disease

ANS: B

- ↓ 60 year old male patient presented with the history of vertigo and vomiting. Examination reveals right sided ptosis and constricted pupils and left sided loss of pain and temperature and pain sensations. What is the most likely diagnosis?

- a. Basilar artery occlusion
- b. Right sided PICA
- c. Vertebral artery occlusion
- d. None of them

ANS: B

- ↓ 50 year old diabetic patient developed right sided partial ptosis and mildly dilated pupils, what is the most likely cause?

- a. DM
- b. Mid-brain stroke
- c. Myasthenia
- d. None

ANS: A

- ↓ A 35 year old male patient of acute leukemia was started on chemotherapy developed renal failure, which of the following drug could have prevented it?

- a. Daunorubicin
- b. Docetaxel
- c. Prednisolone
- d. Allopurinol

ANS: D

4. 55 year old female known case of DM on insulin therapy NPH insulin and regular insulin. There are end organ complications of diabetes. Her fasting blood sugar is of 160 mg /dl, at noon 106mg /dl, at 9 pm 112 mg /dl at 3 am 45 mg/dl. How will you adjust his insulin?

- a. Decrease night NPH dose
- b. Increase night NPH dose
- c. Decrease morning NPH dose
- d. Increase morning NPH dose

ANS: A

5. 30 year old male presented with acute severe attack of asthma and was put on the ventilatory support, which of the following is suitable for this patient?

- a. Decrease the tidal volume
- b. Increase expiratory flow
- c. Decrease inspiratory flow
- d. None of them

ANS: A

6. 55 year old female patient who is a known case of CLL, her HB is 5.0 gm% with retic count of 25% , what is the most likely cause of anemia in this patient?

- a. Bone marrow suppression
- b. AIHA
- c. Sideroblastic anemia
- d. Iron deficiency anemia

ANS: B

7. A 45 year old female patient who is a known case of RA is taking steroids and sulfasalazine, he spleen is mildly enlarged. Labs investigations shows HB of 6 gm% and platelet count of 75000/mm<sup>3</sup>. What is the likely cause?

- a. Felty syndrome
- b. Bone marrow suppression
- c. Sulfasalazine induced pancytopenia
- d. None of them

ANS: A

**Felty's syndrome** A triad of rheumatoid arthritis + ↓wcc + splenomegaly (±hyper-splenism, causing anaemia and ↓platelets), recurrent infections, skin ulcers, and lymphadenopathy. 95% are Rh factor +ve. Splenectomy may raise the wcc. Rx: DMARDs ± rituximab if refractory.



- Infective endocarditis prophylaxis is indicated in which of the following scenario?

- Premium ASD
- Secundum ASD
- HOCM
- After surgical closure of VSD by prosthetic material

ANS: D

Relative Risk of Predisposing Conditions for Infective Endocarditis

High Risk	Intermediate Risk	Low/Negligible Risk
Prosthetic valves*	Mitral valve prolapse with regurgitation	Mitral prolapse without regurgitation
Aortic valve disease	Mitral stenosis	Atrial septal defect
Mitral regurgitation	Tricuspid valve disease	Lutic aortitis
Patent ductus arteriosus	Hypertrophic obstructive cardiomyopathy	Transvenous pacemakers
Arteriovenous fistula	Calcific aortic sclerosis	Surgically corrected congenital lesions (no prosthesis) >6 mo after surgery
Coarctation of the aorta In dwelling right heart catheters (hyperalimentation)	Tetralogy of Fallot	Aortocoronary bypass surgery Cardiac pacemakers
Previous infective endocarditis	Indwelling right heart and pulmonary artery catheters	—
Marfan syndrome	Nonvalvular intracardiac prosthesis	—

\*Indication for endocarditis prophylaxis.

- Which of the following is the most accurate test for an infectious disease?

- Protein level of fluid.
- Culture.
- IgM levels.
- IgG levels.
- Gram stain.

ANS: B

- 50 year old patient working in the felt hat factory presented with the polyneuropathy and loss of vibration and position sense. Which toxin is most likely the cause?

- Lead
- Mercury
- Organophosphorus poisoning
- MG

ANS: B

- Patient with gastric surgery for peptic ulcer disease now presented with weakness, abdominal pain and sweating, these symptoms are as a result of?

- a. Hypoglycemia
- b. Hyperglycemia
- c. Hyponatremia
- d. Low gastrin

ANS: A These symptoms are due to the dumping syndrome that occurs as a result of the gastric surgery.

- \* Diabetic patient presented with ptosis, O/E pupils are normal with normal response to the light, what is your diagnosis?

- a. Weber syndrome
- b. Partial 3<sup>rd</sup> nerve palsy
- c. Complete 3<sup>rd</sup> nerve palsy
- d. None of them

ANS: B

- \* A young with T1DM for 10 years on enalapril for BP control has persistent microalbuminuria, current urine albumin is 150 mg, she come to you for opinion regarding pregnancy.

- a. Enalapril is safe in first trimester of pregnancy
- b. Enalapril should be replaced with another drug
- c. It will have no effect on her disease condition
- d. It will hasten the progression of her disease
- e. It will get worse but will reverse after pregnancy

ANS: B

- \* Coumarin induced skin necrosis occurs in?

- a. Protein C deficiency
- b. Antithrombin III deficiency
- c. Protein S deficiency
- d. Factor V deficiency

ANS: A

- \* Young Lady in the 2<sup>nd</sup> trimester of pregnancy presented with the complaints of polyuria and polydipsia, her fasting blood sugar is 116 mg/dl, what is the most appropriate test for the diagnosis?

- a. Fasting BSL
- b. OGTT
- c. Random BSL
- d. Postprandial BSL

ANS: B

- \* Known case of RA, she never went in to the remission, currently she is on leflunomide, she developed B/L leg swelling, abdominal distention and face swelling, what is the most likely cause?

- a. Amyloidosis
- b. CCF

ANS: A



✦ Most important finding in CSF of GBS patient is?

- a. Raised CSF proteins
- b. Lymphocytosis
- c. Raised blood sugar
- d. None

ANS: A

✦ Patient after fever has low platelet count and prolong aPTT and PT what is your diagnosis?

- a. VWD
- b. Hemophilia
- c. DIC

ANS: C

✦ Patient presented with the sperm count of 1000, what next investigation will you advice?

- a. FSH
- b. LH
- c. USG
- d. MRI brain

ANS: A

✦ Young female from a remote area is a diagnosed case of hyperparathyroidism, she is non compliant to the medications, again presented with the signs and symptoms of hyperthyroidism, what will you advice?

- a. Carbimazole
- b. RAI
- c. Steroids
- d. Surgery

ANS: D

✦ Patient presented with the numbness of index finger and thumb that relieves when her hand drifts out of the bed. What is your diagnosis?

- a. Median nerve compression
- b. Ulnar nerve compression
- c. Radial nerve compression
- d. Thoracic outlet syndrome

ANS: A

=====

## Important one-liners (Recalls)

- ⚡ Contraindication of thrombolysis in ischemic CVA? → Seizures at the time of presentation. **Reference:** OHCM

• Thrombolysis: Consider this as soon as haemorrhage has been excluded, provided the onset of symptoms was  $\leq 4.5$ h ago. The benefits of thrombolysis outweigh the risks within this window, though best results are within 90min. Alteplase is the agent of choice and must be given by trained staff, ideally within an expert acute stroke team. ➤ Always do CT 24h post-lysis to identify bleeds. \* CT to thrombolysis: • Major infarct or haemorrhage on CT. • Mild/non-disabling deficit. • Recent surgery, trauma, or artery or vein puncture at uncompressible site. • Previous CNS bleed. • AVM/aneurysm. • Severe liver disease, varices, or portal hypertension. • Seizures at presentation. • Blood glucose ( $<3$  or  $>22$ ). • Stroke or serious head injury in last 3 months. • GI or urinary tract haemorrhage in the last 21 days. • Known clotting disorder. • Anticoagulants or INR  $>1.7$ . • Platelets  $<100 \times 10^9/L$ . • History of intracranial neoplasm. • Rapidly improving symptoms. • BP  $>180/105$ .

- ⚡ Most common organism isolated in patients with bronchiectasis → Haemophilous influenza. **Reference:** Pass medicine
- ⚡ Most common type of VSD is → Membranous VSD. (most common location is membranous interventricular septum).
- ⚡ Antivirals are given in hepatitis B because they reduce the risk of → HCC
- ⚡ What is the first line management in acute hyperkalemia → calcium gluconate
- ⚡ Most common organism involved in post ERCP sepsis is → E. coli
- ⚡ Hemineglect syndrome is caused by the lesion in → Right parietal lobe.

**Parietal lobe lesions:** Sensory inattention, Neglect, Apraxias (loss of the ability to execute learned purposeful movements), Astereognosis (tactile agnosia) (inability to recognize object by feeling), Inferior homonymous quadrantanopias.

**Gerstmann's syndrome (lesion of dominant parietal):** Alexia (inability to read), Acalculia (inability to perform mental arithmetic calculation), Agraphia (difficulty in writing), Dyslexia (inability to recognise letters or words), Finger agnosia (difficulty in identifying fingers and naming them), Right-left disorientation

### Frontal lobes lesions:

#### Expressive (Broca's) aphasia:

located on the posterior aspect of the frontal lobe, in the inferior frontal gyrus. Speech is non fluent, laboured, and halting.

#### Anosmia, Changes in

#### personality, Disinhibition

#### Primitive reflexes (positive

grasp, pout and palmomental

reflexes), Urinary and faecal

incontinence, Perseveration

(repeatedly asking same question or doing same task), Inability to

generate a list rapidly (For example name animals in 60 seconds or words beginning with the letter F, etc.). Difficulties with executive skills.

**Note:** 50% of patients presenting with status epilepticus (with no previous history of seizures) have frontal lobe tumour.



**Temporal lobe lesion:** Wernicke's (Receptive) aphasia. Superior homonymous quadrantanopias. Auditory agnosia. Prosopagnosia (difficulty recognising faces). Memory impairment.

**Occipital lobe lesions:** Homonymous hemianopia (with macula sparing). Cortical blindness (blindness due to damage to the visual cortex, may present as **Anton syndrome**: there is blindness but the patient is unaware or denies blindness). Visual agnosia (seeing but not perceiving objects- it is different to neglect since in agnosia the objects are seen and followed but cannot be named). Unilateral occipital lobe lesions (left or right) cause contralateral hemianopia or quadrantanopsia, visual illusions and elementary visual hallucinations.

- ✦ Black colored hepatocytes are seen in → Dubin Johnson syndrome
- ✦ Anemia in SLE is → comb s' positive
- ✦ Auer rods are seen in → AML
- ✦ What is the investigation of choice to diagnose sarcoidosis → Trans bronchial biopsy.
- ✦ Most common antibody positive in SLE is → ANA.
- ✦ Patient presented with signs and symptoms of porphyria what other findings may be present → Psychiatric.
- ✦ What is the management option to treat torsades pointes → IV magnesium sulphate
- ✦ Hypertensive patient presented with signs and symptoms of left sided hemiplegia (pure motor stroke) what is the cause → Lacunar infarct.
- ✦ What investigation is done to diagnose pernicious anemia → intrinsic factor antibody,
- ✦ Head injury can lead to → SIADH.
- ✦ Painless ulcer with discharging sinus in the genital area, what is your diagnosis? → Lymphogranuloma venereum (Chlamydia)
- ✦ If diarrhoea improves with fasting, what is the type of diarrhoea → Osmotic diarrhoea.
- ✦ Multiple duodenal ulcers at unusual sites → ZES
- ✦ Recurrent duodenal ulcers at the usual sites → H-pylori.
- ✦ How to **differentiate** between Bartter and Gitelman syndrome → In Bartter syndrome there is no hypomagnesaemia.

**Other differences are:**

Bartter's syndrome is like Gitelman's in (hypokalaemia, metabolic alkalosis and normotension) but Bartter's is more severe and patients therefore present earlier in childhood with profound hypokalaemia and hypotension with constipation, growth failure, muscle cramps and weakness and ~~hyper~~nephrocalcinosis in early childhood.

But in Gitelman's urinary calcium excretion is low, and this can also be used as a differentiator.




	BP	Renin	Aldosterone
Conn's syndrome	HTN	↓	↓
Liddle's syndrome	HTN	↓	↓
RAS	HTN	↑	↑
Bartter's syndrome	Normal	↑	↑
Gitelman's syndrome	Normal	↑	↑

- ↓ What type of skin lesion is seen in rheumatic fever → Erythema Marginatum.
- ↓ Asthmatic patient presented with atrial fibrillation how will you control the heart rate → Verapamil.
- ↓ Patient presented with atrial flutter, his BP is 80/60, how will you manage this case → DC cardioversion.
- ↓ Male patient presented with bullous disorder involving skin and mucous membrane (oral mucosa) that is painful but non itchy what is your diagnosis → **Pemphigous vulgaris**.
- ↓ Characteristic rash seen in Lichen planus? polygonal pruritic papules and plaques. (Association with **hepatitis C**).
- ↓ **Wickham's striae** are whitish lines visible on the papules of Lichen planus
- ↓ Homonymous hemianopia with macular sparing → Seen in the lesion of PCA (occipital lobe)
- ↓ **Shistosoma mansoni** is associated with portal hypertension and jaundice and is endemic to Africa and west indies.

#### Remember: In

Pemphigous foliaceous there is no **ORAL MUCOSA** involvement and the lesions are characteristically itchy

#### Trematodes (flukes)

ORGANISM	DISEASE	TRANSMISSION	TREATMENT
<b>Schistosoma</b> 	Liver and spleen enlargement ( <i>S. mansoni</i> , egg with lateral spine  , fibrosis, inflammation, portal hypertension Chronic infection with <i>S. haematobium</i> (egg with terminal spine  ) can lead to squamous cell carcinoma of the bladder (painless hematuria) and pulmonary hypertension	Snails are intermediate host; cercariae penetrate skin of humans in contact with contaminated fresh water (eg, swimming or bathing)	Praziquantel
<b>Clonorchis sinensis</b>	Biliary tract inflammation → pigmented gallstones Associated with cholangiocarcinoma	Undercooked fish	Praziquantel



- ✚ For the staging of colorectal cancer what investigation is to be performed? CT scan
- ✚ What is the best treatment option for hepatopulmonary syndrome → Liver transplant.
- ✚ Post ileal resection what is the cause of diarrhoea → Bile acid.
- ✚ Budd chiari syndrome → HEPATIC vein occlusion
- ✚ Patient presented with SVT and low BP what is the management option → DC cardioversion
- ✚ **8<sup>th</sup> week** Post delivery patient is hyperthyroid what drug to be given? PTU (PTU is most suitable among antithyroid drugs during lactation (Reference: Davidson)
- ✚ 30 year old male is going to the gym, he is taking anabolic steroids, he is complaining of on/off severe abdominal pain and psychiatric symptoms what is the most likely diagnosis → **Acute intermittent porphyria.**

**In acute porphyrias symptoms are mostly triggered by:**

- a. Alcohol
- b. Smoking
- c. Use of certain medication and hormones (OCPs) and anabolic steroids.
- d. Stress
- e. Dieting and
- f. Fasting, ( high carbohydrate diet is recommended in porphyria so these patients can not do fasting)

- ✚ Patient presented with torsades pointes and unrecordable BP what is the best management option → DC cardioversion.
- ✚ Obese female presented with headache, papilledema and signs and symptoms of 6<sup>th</sup> nerve palsy, what is the most likely diagnosis → Benign intracranial hypertension.
- ✚ Hypertensive patient presents with infarcts in the brain, what type of infarcts are common in hypertensive patient → Lacunar infarcts.
- ✚ What of of sign is seen in barium study in case of Ulcerative colitis → Lead pipe appearance.
- ✚ Carotid artery aneurysm can lead to → Horner syndrome.
- ✚ Patient was admitted in ICU suddenly developed SOB. CT scan of the lungs shows ground glass appearance what is the cause → ARDS.
- ✚ What is the best management option for diabetic gastroparesis → metochlorpromide.
- ✚ Asthmatic patient was admitted to the hospital what PEF will suggest to discharge the patient? → 75% **Reference: OHCM**

**Discharge** Patients with PEF  $>75\%$  within 1h of initial treatment can be discharged if no other reason to admit. Otherwise, before discharge patients must have:

- been stable on discharge medication for 24h
- had inhaler technique checked
- peak flow rate  $>75\%$  predicted or best with diurnal variability  $<25\%$
- steroid (inhaled *and* oral) and bronchodilator therapy
- their own PEF meter and have written management plan
- GP appointment within 2d
- respiratory clinic appointment within 4wks.

- ✚ Indication of pace maker following acute inferior wall MI is → Trifascicular block.

Indication for pace makers:

### Indications

#### Following acute myocardial infarction

- asystole
- symptomatic 2nd- or 3rd-degree (complete) heart block
- trifascicular block
- following anterior MI: complete or Mobitz type II 2nd-degree heart block, even if asymptomatic
- symptomatic sinus bradycardia unresponsive to medical therapy (see 'Bradyarrhythmias', p. 138)
- over drive pacing for refractory VT unresponsive to medical therapy (see 'VT', p. 137).

#### Indications unrelated to myocardial infarction

These assume medical therapies have failed (see 'Arrhythmias', p. 132) and include:

- symptomatic sinus or junctional bradycardia
- symptomatic 2nd- or 3rd-degree (complete) heart block
- sinus arrest
- torsades de pointes
- refractory ventricular tachycardia
- drug overdose, e.g.  $\beta$ -blockers, digoxin, rate-limiting calcium antagonists
- to facilitate a permanent pacemaker change in a pacemaker-dependent individual
- prophylactic pacing should be considered before general anaesthesia in patients with symptomatic sinoatrial disease, 2nd-degree heart block or complete heart block.

- ✚ Pencil in a cup deformity on Xray hand is seen in → Psoriatic arthropathy.

- ✚ Patient is having history of flu, fever and rash( dew drop appearance) from several days now developed severe epigastric pain, nausea and vomiting, serum amylase,xray and U/S abdomen is awaited, what is the most likely diagnosis → Pancreatitis.



- ↓ Patient presented with HTN emergency and was diagnosed as a case of pheochromocytoma. What is the best drug for this condition → **Phentolamine**.

### Phaeochromocytoma emergencies

Patients with phaeochromocytoma may have had undiagnosed symptoms for some time, but stress, abdominal palpation, parturition, general anaesthetic, or contrast media used in imaging can cause acute *hypertensive crises*.

**Signs and symptoms** Pallor, pulsating headache, hypertension, feels 'about to die', pyrexial. ECG: signs of LVF, TST segment, VT, and cardiogenic shock.

**Treatment** → Get help. Take to ICU.

Principle is combined  $\alpha$ - and  $\beta$ -adrenoreceptor blockade, but  $\alpha$  must be started first, as unopposed  $\beta$ -blockade can worsen hypertension.

- Start with short-acting, IV  $\alpha$ -blocker, eg phentolamine 2-5mg IV. Repeat to maintain safe BP.
- When BP controlled, give long-acting  $\alpha$ -blocker, eg phenoxybenzamine 10mg/24h PO (increase by 10mg/d as needed, up to 30mg/12h PO); SE: postural hypotension; dizziness; tachycardia; nasal congestion; miosis; idiosyncratic marked BP drop after 1st dose. The idea is to titrate the dose until BP is controlled and there is no significant postural hypotension. Alternative  $\alpha_1$ -selective blockers, eg doxazosin, are preferred in some centres, particularly if surgery is not an option, eg metastatic tumour.
- A  $\beta_1$ -blocker may also be given at this stage to control any tachycardia or myocardial ischaemia/dysrhythmias (p114).
- Surgery is usually done electively after 4-6wks to allow full  $\alpha$ -blockade and volume expansion. When admitted for surgery the phenoxybenzamine dose is increased until significant postural hypotension occurs.

- ↓ Patient with HIV got painful genital ulcers that are resistant to acyclovir what can be done next → **Foscarnet**.
- ↓ Pregnant female was diagnosed as a case of hyperthyroidism, what drug to be given → **PTU**.
- ↓ Management of warfarin toxicity with bleeding is → **FFPS and Vitamin K**.

Major bleeding	1) Stop warfarin.
	2) Give Vitamin K 5mg IVL
	3) PCC - but if it is not available so, FFP.
INR > 8.0	Stop warfarin, restart when INR < 5.0
Minor bleeding	Give intravenous vitamin K 1-3mg
	Repeat dose of vitamin K if INR still too high after 24 hours
INR > 8.0	Stop warfarin, restart when INR < 5.0
No bleeding	Give vitamin K 1-5mg by mouth, using the IV preparation orally
	Repeat dose of vitamin K if INR still too high after 24 hours
INR 5.0-8.0	Stop warfarin, restart when INR < 5.0
Minor bleeding	Give intravenous vitamin K 1-3mg

	1) Stop warfarin.
	2) Give Vitamin K 5mg IV.
Major bleeding	3) PCC - but if it is not available so, FFP.
INR 5.0-8.0	Withhold (omit) 1 or 2 doses of warfarin, then review INR
No bleeding	Reduce subsequent maintenance dose

- ✚ Female patient was taking treatment for pruritis from dermatologist, was examined by physician and noted hepatomegaly and raised ALP on biochemical investigation, what is the most likely diagnosis → PBC.
- ✚ Patient resented with chronic diarrhoea, D-xylose test was performed, which is normal what is the most likely diagnosis :
  - a. Pancreatic insufficiency (Maldigestion)
  - b. Malabsorption (Mucosal abnormality)
- ANS: A D-xylose test is performed to differentiate between maldigestion and malabsorption.
- ✚ Asymptomatic hypercalcemia is seen is → Parathyroid adenoma or primary hyperparathyroidism.
- ✚ Symptomatic hypercalcemia is seen is → Malignant hypercalcemia.
- ✚ Known epileptic patient, well controlled on phenytoin, develops fits again, what to do next → Check serum phenytoin level.
- ✚ Proliferative diabetic retinopathy is characterized by → Retinal neovascularization.

### Types of diabetic retinopathy

#### Background retinopathy:

- 1) Microaneurysms (MA) (dots)
- 2) Blot haemorrhages (less than 3)
- 3) Hard exudates (HE): collections of exudated lipid and protein
- 4) Seen in both type 1 & 2 DM

**Pre-proliferative retinopathy:** 1) Cotton wool spots (CWS): (soft exudates; ischaemic infarcts of the nerve fibre layer of the retina) 2) > 3 blot haemorrhages 3) Venous beading/looping, 4) Deep/dark cluster haemorrhages 5) More common in Type 1 DM, treat with laser photocoagulation.

**Proliferative retinopathy:** 1. Retinal neovascularisation - may lead to vitreous haemorrhage  
 2. Fibrous tissue forming anterior to retinal disc, 3. More common in Type 1 DM, 50% blind in 5 years  
 4. Normal visual acuity is seen in proliferative retinopathy, 5. Urgent referral to ophthalmologist for panretinal photocoagulation.

**Maculopathy:** 1. Based on location rather than severity, anything is potentially serious 2. Hard exudates and other 'background' changes on macula, 3. (Check visual acuity) 3. More common in Type 2 DM



- ✚ Tall male patient suddenly become SOB, on the right side breath sounds are absent, what is your diagnosis → Pneumothorax.
- ✚ Anti-hypertensive contraindicated in pregnancy is → Captopril.
- ✚ Middle age female presented with wide pulse pressure, hyperdynamic circulation and early diastolic murmur what is your diagnosis → AR.
- ✚ Patient was having angioedema 2 weeks back, now recovered, now recently he has been diagnosed as Hypertensive, What antihypertensive will you advise him?
  - a. Losartan
  - b. Captopril
  - c. Phentolamine
  - d. Beta blocker

ANS: A

- ✚ Patient is diagnosed case of aortic aneurysm, now presented with chest pain and unequal pulse in both the arms, he is vitally stable, what is the most appropriate investigation → Trans esophageal echo.

### Quick HIT

TEE and CT scan are the preferred tests in the diagnosis of acute aortic dissection. TEE is very accurate and is ideal in the unstable patient because it can be performed at the bedside.

### Following MCQ is taken from Master the boards Usmle step 2 Ck

A 67-year-old man comes to the emergency department with the sudden onset of chest pain. He also has pain between his scapulae. He has a history of hypertension and tobacco smoking. His blood pressure is 169/108 mm Hg.

What is the most accurate test?

- a. MRA.
- b. Transesophageal echocardiogram.
- c. Transthoracic echocardiogram.
- d. CT angiogram.
- e. Angiogram.

There is no difference in the accuracy of the MRA, CT angiogram, or TEE. MRA = CTA = TEE

**Answer: E.** Angiography is more accurate than any of the other choices. It is the most invasive and has the potential allergic complications of contrast as well as renal failure, but it is the most sensitive and specific. The diagnostic quality from TEE, MRA, and CT angiogram are comparable to those from angiogram with a catheter. The reason you will see the CT angiogram used most often is that it is the easiest to obtain.

4. Patient is hypertensive, with raised creatinine and palpable mass in the lumbar region, his father was having some kidney disease, what investigation will you perform → U/S abdomen and pelvis.

Ultrasound diagnostic criteria (in patients with positive family history):

1. Two cysts, unilateral or bilateral, if aged < 30 years
2. Two cysts in both kidneys if aged 30-59 years
3. Four cysts in both kidneys if aged > 60 years

CT is more sensitive than USS and may aid in diagnosis in younger patients.

**MRA angiography:** In patients with a family history of intracranial aneurysm - to screen for cerebral aneurysms.

**Screening is recommended after 20 years age** (if < 20 yrs. age >>>> Ultrasound gives false -ve result and CT is not needed as it will involve unnecessary high radiation dose to this young boy or girl, so just follow up US at the age of 20 years old age). Cysts usually develop during teenage years, so one cannot be confident a child has not been affected until they are at least 20 years.

4. Patient presented with psychiatric symptoms, hallucination and tachycardia, what poison he has taken → Amphetamines.

**Ecstasy poisoning** Ecstasy is a semi-synthetic, hallucinogenic substance (MDMA, 3,4-methylenedioxymethamphetamine). Its effects range from nausea, muscle pain, blurred vision, amnesia, fever, confusion, and ataxia to tachyarrhythmias, hyperthermia, hyper/hypotension, water intoxication, DIC, rhabdomyolysis, acute kidney injury (AKI), hepatocellular and muscle necrosis, cardiovascular collapse, and ARDS. There is no antidote and treatment is supportive. Management depends on clinical and lab findings, but may include:

- Administration of activated charcoal and monitoring of BP, ECG, and temperature for at least 12h (rapid cooling may be needed).
- Monitor urine output and U&E (AKI pp298-9), LFT, CK, FBC, and coagulation (DIC p352). Metabolic acidosis may benefit from treatment with bicarbonate.
- Anxiety: lorazepam 1-2mg IV as a slow bolus into a large vein. Repeat doses may be administered until agitation is controlled (see p826).
- Narrow complex tachycardias (p806) in adults: consider metoprolol 5mg IV.
- Hypertension can be treated with nifedipine 5-10mg PO or phentolamine 2-5mg IV. Treat hypotension conventionally (p790).
- Hyperthermia: attempt to cool, if rectal  $T^{\circ}$  >39°C consider dantrolene 1mg/kg IV (may need repeating; discuss with your senior and a poisons unit). Hyperthermia with ecstasy is akin to serotonin syndrome, and propranolol, muscle relaxation, and ventilation may be needed.



- ✚ Early diastolic murmur followed by the mid-diastolic murmur, ECHO shows AR, what is that mid-diastolic murmur called in this case → Austin-Flint murmur.
- ✚ Most reliable sign of Mitral stenosis is called → Presystolic accentuation.
- ✚ Young boy developed fever and sore-throat and joint pains for which he was treated, now he is developed unable to grip things properly and abnormal movements (cerebellar signs were negative) what is the most likely diagnosis → **Rheumatic chorea** (Sydenham chorea).
- ✚ ECG findings in pericarditis is → ST elevation with upward concavity.
- ✚ Most specific for pericarditis is → PR depression.
- ✚ Patient presented with recurrent history of TIA, On examination he is having irregular pulse rate and ECG is consistent with atrial fibrillation; which drug will be more helpful → Warfarin (heparin cover).

In case of TIA → Give aspirin immediately then Clopidogrel if long as a treatment.  
 A-Fib leading to TIA → Anticoagulation (warfarin, With heparin cover).  
 A-Fib leading to stroke → CT if ischemic, start Aspirin and anticoagulation is started after 14 days in case of ischemic CVA.

- ✚ Patient is having serum sodium of 132 and serum potassium of 6.8, what is the immediate management → IV calcium Gluconate.
- ✚ Child having history of sore throat developed joint pain, what investigation will you perform? → ASO titer.
- ✚ Serious side effect of desmopressin is → water intoxication.
- ✚ Patient was having MI 4 months ago now developed shortness of breath and double apical impulse, ECG shows persistent ST elevation in V1 to V4. What investigation will you perform → ECHO for ventricular aneurysm.
- ✚ Patient is hypotensive with irregular heart rate, how will you manage this patient → DC cardioversion.
- ✚ Patient was having MI 4 days back now again presented with MI, What investigation will you perform → CK-MB iso-enzyme.
- ✚ Patient presented to you with SOB, he is having enlarged LV, coronary artery angiography is normal, what is the diagnosis → Cardiomyopathy.
- ✚ Patient presented with history of light-headedness and blackouts on moving the hand what is the most probable diagnosis → Vertebrobasilar

ischemia. (actually it is subclavian steal syndrome leading to vertebrobasilar ischemia.

Subclavian steal syndrome: Subclavian artery stenosis proximal to the origin of the vertebral artery may cause blood to be stolen by retrograde flow down this vertebral artery down into the arm, causing brainstem ischaemia typically after use of the arm. Suspect if the BP in each arm differs by >20mmHg.

- ✚ A patient presented with SOB, cough, inspiratory and expiratory wheeze and inspiratory rales and pink frothy spuam, what is the most likely diagnosis → Pulmonary edema.
- ✚ What is done in the management of air embolism initially?
  - a. Sit upright
  - b. Legs upward
  - c. Left lateral position
  - d. Right lateral position

ANS: C

132. A nurse suspects that an air embolism has occurred when the client's central venous catheter disconnects from the intravenous (IV) tubing. The nurse immediately places the client in which position?

- 1 Trendelenburg's on the left side
- 2 Trendelenburg's on the right side
- 3 Reverse Trendelenburg's on the left side
- 4 Reverse Trendelenburg's on the right side

Level of Cognitive Ability: Applying

Client Needs: Physiological Integrity

Integrated Process: Nursing Process/Implementation

Content Area: Critical Care

Answer: 1

**Rationale:** If the client develops an air embolism, the immediate action is to place the client in Trendelenburg's position on the left side. This position raises the client's feet higher than the head and traps any air in the right atrium. If necessary, the air can then be directly removed by intracardiac aspiration. Options 2, 3, and 4 are incorrect positions because reverse Trendelenburg's elevates the head, puts the air in a dependent position, and increases the risk of a cerebral embolism; lying on the right side places the air in a dependent position, rendering it more likely to migrate.

**Priority Nursing Tip:** If an air embolism is suspected, the intravenous tubing is clamped off immediately.

**Test-Taking Strategy:** Visualize each position in the options. Recalling that the goal of action is to trap air in the right atrium will direct you to option 1. Review immediate care of a client with an air embolism if you had difficulty with this question.

**Reference**

Ignatavicius, D., & Workman, M. (2010). *Medical-surgical nursing: Patient-centered collaborative care* (6th ed., p. 231). St. Louis: Saunders.

- ✚ After snake bite there was swelling at the site of bite and bleeding which type of snake is responsible? → Viper
- ✚ After snake bite the patient developed neuropathy, which type of snake is responsible → Elapides.
- ✚ Patient presented with proximal myopathy, ESR was 86 and there was increase platelet count, she was anemic, Bone marrow biopsy showed increase iron stores, what is your diagnosis :
  - a. PMR
  - b. Myelodysplasia

ANS: A Blood picture is due to anemia of chronic disease.



- Patient presented with abdominal pain, diarrhoea and recurrent oral ulcers (aphthous) and genital ulcers, what is your diagnosis → Behçet's disease.
- Fish worker developed jaundice, renal failure and conjunctival hemorrhages what is your diagnosis → Leptospirosis.
- What differentiates ARDS from cardiogenic pulmonary edema → PCWP.
- Patient presented with decrease in all cell lines, what investigations will you perform → Bone marrow biopsy.
- Patient presented with lethargy, petechial rash and gum bleeding, what appropriate investigation will you perform → BT.
- Diagnosed case of pancreatitis developed SOB and shock what is the most likely phenomenon → ARDS.
- What is the XRAY findings in the patient with pulmonary hypertension → **Pruning** of pulmonary vessels. REFERENCE: **Davidson**

PH is suspected if an electrocardiograph shows a right ventricular 'strain' pattern or a chest X-ray shows enlarged pulmonary arteries, peripheral pruning and right ventricle enlargement (Fig. 19.70). Doppler assessment of the tricuspid regurgitant jet by transthoracic echocardiography provides a non-invasive estimate of

- Asthmatic patient presented with silent chest, bradycardia and diminished level of consciousness, what is more helpful in this case → **Intubation**.

**-- If not improving**  
 Refer to ICU for consideration of ventilatory support and intensification of medical therapy, eg aminophylline, iv salbutamol if any of the following signs are present:

- Deteriorating PEF
- Persistent/worsening hypoxia
- Hypercapnia
- ABG showing low pH or high IF
- Exhaustion, feeble respiration
- Drowsiness, confusion, altered conscious level
- Respiratory arrest

## ►► Acute severe asthma

- The severity of an attack is easily underestimated.
- An atmosphere of calm helps.

**Presentation** Acute breathlessness and wheeze.

**History** (See p 48.) Ask about usual and recent treatment; previous acute episodes and their severity and best peak expiratory flow rate (PEF). Have they been admitted to ICU?

**Differential diagnosis** Acute infective exacerbation of COPD, pulmonary oedema, upper respiratory tract obstruction, pulmonary embolus, anaphylaxis.

**Investigations** PEF – but may be too ill; ABG if saturations  $<92\%$  or life-threatening features; CXR (if suspicion of pneumothorax, infection or life-threatening attack); FBC; U&E.

### Assessing the severity of an acute asthma attack

#### Severe attack

- Unable to complete sentences in one breath.
- Respiratory rate  $\geq 25/\text{min}$ .
- Pulse rate  $\geq 110$  beats/min.
- PEF 33–50% of predicted or best.

#### Life-threatening attack

- PEF  $<33\%$  of predicted or best.
- Silent chest, cyanosis, feeble respiratory effort.
- Arrhythmia or hypotension.
- Exhaustion, confusion, or coma.
- Arterial blood gases:
  - Normal/high  $P_a\text{CO}_2 >4.6\text{kPa}$ .
  - $P_a\text{O}_2 <8\text{kPa}$ , or  $S_a\text{O}_2 <92\%$ .

**Management** ► Rapid treatment and reassessment is key; see fig 19.12.

- Salbutamol 5mg nebulized with oxygen and give prednisolone 30mg PO.
- If PEF remains  $<75\%$ , repeat salbutamol; add ipratropium.
- Monitor oxygen saturation, heart rate, and respiratory rate.
- Admit all with severe features not responding to initial treatment or with life-threatening features.

NB: the routine use of antibiotics is not recommended in exacerbations of asthma.

**Discharge** Patients with PEF  $>75\%$  within 1h of initial treatment can be discharged if no other reason to admit. Otherwise, before discharge patients must have:

- been stable on discharge medication for 24h
- had inhaler technique checked
- peak flow rate  $>75\%$  predicted or best with diurnal variability  $<25\%$
- steroid (inhaled and/or oral) and bronchodilator therapy
- their own PEF meter and have written management plan
- GP appointment within 2d
- respiratory clinic appointment within 4wks.

### Drugs used in acute asthma

**Salbutamol** ( $\beta_2$ -agonist). SE: tachycardia, arrhythmias, tremor,  $\downarrow K^+$ .

**Hydrocortisone** and **prednisolone** (steroid; reduces inflammation).

**Aminophylline** is used much less frequently and is not routinely recommended in current BTS guidelines, but may be initiated by respiratory team or ICU. It inhibits phosphodiesterase;  $\uparrow [cAMP]$ . SE:  $\uparrow$  pulse, arrhythmias, nausea, seizures. The amount of IV aminophylline may need altering according to the individual patient: always check the BNF. Monitor ECG. ► Aim for plasma concentration of 10–20mcg/mL (55–110 $\mu\text{mol/L}$ ). Serious toxicity ( $\uparrow$ BP arrhythmias, cardiac arrest) can occur at concentrations  $\geq 25\text{mcg/mL}$ . Measure plasma  $K^+$ : theophyllines may cause  $\downarrow K^+$ . Don't load patients already on oral preparations. Stick with one brand (bioavailability varies).



- ✚ Increase gastrin level apart from ZES is seen in → Achlorhydria.
- ✚ A patient is on ATT developed diarrhoea, skin rash and increase forgetfulness, what is the most likely diagnosis → Pallegra.
- ✚ PAS positive macrophages are seen in → whipples disease.
- ✚ 70 year old patient presented with huge spleen crossing the midline, about 3 gm what is the diagnosis → Myelofibrosis.
- ✚ Which hemolytic anemia has best prognosis after splenectomy → Hereditary spherocytosis.
- ✚ HIV patient with CD4 count less then 200, prophylaxis at this stage is given against → PCP.
- ✚ Investigation to check remission in case of HCV is → HCV RNA.
- ✚ Diabetic obese patient presented with excessive day time somnolence and he got accident due to increase somnolence. What is the likely cause → Obstructive sleep apnea.
- ✚ Pregnant female is having tingling in the 3<sup>rd</sup> 4<sup>th</sup> and 5<sup>th</sup> finger what is the most likely pathology → Carpal tunnel syndrome.
- ✚ Patient is passing mucus with stools and pain relieved with defecation, these is variable stool consistency, what is the diagnosis → IBS.
- ✚ Patient is having sickle cell anemia, developed osteomyelitis, organism responsible is → Salmonella.
- ✚ Side effect of long term steroid use is → osteoporotic fracture.
- ✚ 35 year old male patient presented with backache and xray chest shows upper lobe fibrosis what is your diagnosis → Ankylosing spondylitis.
- ✚ Intravascular hemolysis leads to → decrease heptoglobin.
- ✚ Obese PATIENT presented with polydactyly and hypogonadism → Laurence moon biedl syndrome.

### **Laurence-Moon-Biedl syndrome or Laurence-Moon-Biedl- Bardet**



1. Obesity, hypogenitalism like in patients with Babinsky-Frelych's disease.
2. Decreased mental activity or debility.
3. Pigmental retinitis.
4. Bones or inner organs abnormalities (polydactyly, syndactyly and others)



- ↓ Patient with PNH developed tender liver and sudden development of ascites what is your diagnosis → Hepatic vein thrombosis.
- ↓ Pregnant female is having previous history of macrosomic baby, Now what test is required → OGTT.
- ↓ Test used to determine large ascites is → fluid thrill.
- ↓ Patient with dysphagia is having dilated upper 2/3<sup>rd</sup> of esophagus what is most likely diagnosis → Achalasia.
- ↓ Low calcium and muscle weakness in female → osteomalacia.
- ↓ Which of the following will increase Risk of cancer in UC patient → Pancolitis.
- ↓ Alcoholic Patient presented with recurrent history abdominal pain, steatorrhea and low calcium, his D-xylose test is normal, what is the most likely diagnosis → chronic Pancreatitis.
- ↓ Patient presented with status epilepticus, what is the most immediate management required → Airway patency.
- ↓ Patient was treated for gonorrhea, 5 days after completion of treatment lesions are still not still settled down what is your diagnosis → superimposed chlamydial infection.
- ↓ Patient after RTA developed renal failure what is the most likely diagnosis → Myoglobinuria.
- ↓ Rheumatoid arthritis presented with red hot knee joint, what is the next management option → Aspirate.
- ↓ Patient with lung cancer developed nephropathy, What is the most likely type of glomerulonephritis → Membranous glomerulonephritis.
- ↓ Patient is admitted in ICU, he is having decrease urine output, dry mouth and Urine plasma creatinine ratio is greater than 45. what is the diagnosis → Pre-renal azotemia.

**TABLE 57-8 Urinary indices in azotemia.**

Index	Prerenal	Renal	Postrenal		Pre-renal uraemia	Acute tubular necrosis (ATN)
Specific gravity	>1.018	<0.012	Variable	Urine sodium	< 20 mmol/L	> 40 mmol/L
Osmolality (mmol/kg)	>500	<350	Variable	Fractional sodium excretion*	< 1%	> 1%
Urine/plasma urea nitrogen ratio	>8	<3	Variable	Fractional urea excretion**	< 35%	>35%
Urine/plasma creatinine ratio	>40	<20	Variable	Urine osmolality	>500	<350
Urine/plasma creatinine ratio	>40	<20	Variable	Urine: plasma osmolality	> 1.5	< 1.1
Urine/sodium (mEq/L)	<10	>40	Variable	Urine: plasma urea	> 10:1	< 8:1
Fractional excretion of sodium (%)	<1	>3	Variable	Specific gravity	> 1020	< 1010
Renal failure index	<1	>1	Variable	Urine	'bland' sediment	brown granular casts (NOT RBCS cast)
				Response to fluid challenge	Yes	No



- ✚ Which of the following is not altered in obstructive and restrictive lung disease → Tidal volume.
- ✚ Patient presented with kidney disease, low HB and raised cholesterol what is your diagnosis → Nephritic syndrome.
- ✚ Hepatitis B positive patient is more likely to develop → Membranous GN.
- ✚ **Indications for surgical intervention to remove smuggled drug packets that have been ingested include:** (9<sup>th</sup> Jan morning shift IMM medicine)
  - a. Refusal to take high doses of laxatives
  - b. Refusal to allow endoscopic retrieval
  - c. Refusal to allow digital rectal disimpaction
  - d. Intraintestinal drug packets evident on abdominal x-ray in an asymptomatic smuggler
  - e. Signs of toxicity from leaking drug packets

**ANS: E** (Robinson, Surgery 113:709-711, 1993.)

Some drug smugglers, often called "body packers" or "mules," ingest cocaine- or heroin-filled packets and retrieve them at a later date from their stools. The drugs are usually contained in latex or plastic packets. Rupture or leakage of even one bag carries the risk of severe toxicity and death. Although conservative medical management with moderate doses of laxatives is usually safe in stable body packers, close physiologic monitoring is necessary until all packets are passed. High doses of laxatives, digital rectal disimpaction, or endoscopic removal create a high risk of rupture of the bags and therefore are generally discouraged. Emergency surgery is indicated when complications develop.

- ✚ Hereditary angioedema is due to → C1 esterase inhibitor deficiency

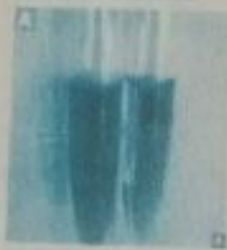
#### Complement regulatory protein deficiencies

##### **C1 esterase inhibitor deficiency**

Causes hereditary angioedema due to unregulated activation of kallikrein → ↑ bradykinin. Characterized by ↓ C4 levels. ACE inhibitors are contraindicated (also ↑ bradykinin).

##### **Paroxysmal nocturnal hemoglobinuria**

A defect in the *PIGA* gene preventing the formation of glycosylphosphatidylinositol (GPI) anchors for complement inhibitors, such as decay-accelerating factor (DAF/CD55) and membrane inhibitor of reactive lysis (MIRL/CD59). Causes complement-mediated intravascular hemolysis → ↓ haptoglobin, dark urine [3].



- \* Hepatojugular reflex is absent in case of → Budd-chiari syndrome. (9<sup>th</sup> Jan morning shift IMM medicine)

### Abnormalities of JVP:

- ❖ CCF: Elevated JVP, pulsatile, positive hepatojugular reflux. When pressure is applied over liver area, jugular veins get engorged and on release of pressure, JVP falls.
- ❖ SVC obstruction: Raised JVP but non-pulsatile.
- ❖ Pericarditis with effusion: JVP raised with prominent "Y" descent.
- ❖ Constrictive pericarditis: JVP Kussmaul's sign positive
- ❖ Atrial fibrillation: "a" wave absent
- ❖ Tricuspid stenosis, pulmonary stenosis, pulmonary hypertension, Ebstein's anomaly have giant "a" waves
- ❖ Tricuspid regurgitation: Prominent "v" waves
- ❖ Complete heart block: Cannon "a" waves
- ❖ Budd Chiari syndrome: Absent hepatojugular reflux

Carotid pulsations	Jugular venous pulsations
• Rapid outward pulsation with one peak per heart beat	Rapid inward pulsation with 2 peaks per heart beat
• Palpable	Not palpable
• Has single systolic peak all along	Has 2 peaks (systolic, diastolic) at upper level of venous column
• No alteration with breathing	Varies with inspiration and expiration
• Does not vary with position	Varies with position of patient
• Hepatojugular reflux absent	Hepatojugular reflux positive by pressure over liver or abdomen except in Budd Chiari syndrome

- ⊞ Contraindication of renal biopsy is → Diastolic blood pressure greater than 120

### Renal biopsy

**Pre-procedure:** BP (<160/95 or according to local protocol),  $\text{Fbc}$  ( $\text{Hb} > 9$ ,  $\text{plt} > 100$ ), clotting (PT and APTT <1.2), G&S. Written informed consent including possible complications: mild back/loin pain, visible haematuria (~5%, usually clears), bleeding, need for transfusion (~1%), angiographic intervention (~0.5%). Stop anticoagulants (aspirin 1 week, warfarin to PT <1.2, low-molecular-weight heparin 24h).

**Post-procedure:** Bed rest for a minimum of 4h. Monitor pulse, BP, symptoms, and urine colour. Do not discharge home until macroscopic haematuria settled. Aspirin or warfarin can be restarted the next day if procedure uncomplicated.

**Result:** Examination of glomerular lesions provides GN diagnosis. Includes: proportion of glomeruli involved (focal vs diffuse), how much of each glomerulus is involved (segmental vs global), hypercellularity, sclerosis. Immunohistology for deposits (Ig, light chains, complement). Electron microscopy for ultrastructure: precise location of deposits, podocyte appearance. Also examines tubulointerstitium (atrophy, fibrosis, inflammation) and any vessels.

- ⊞ Patient presented with chief complaint of recurrent jaundice that is only worse during Ramadan → Gilbert syndrome.

- ⊞ Suspected case of myasthenia gravis that is AChR receptor antibody negative what antibody test is to be done next → Antimuscle antibody. **Reference:** BMJ and Uptodate

muscle-specific tyrosine kinase (MuSK) antibodies

### Result

may be positive

### Test

Positive test in up to 70% of AChR-seronegative generalised MG [3] [52] Consider testing earlier in patients with classic phenotype

Dictionary

←



- ✚ Festinating gait is seen in → Parkinsonism.

### Festination Of Gait In Parkinson's Disease



- ✚ Lung pathology associated with RA is → Bronchiolitis Obliterans.
- ✚ Best marker of **Endemicity of Hepatitis B** is → HbsAg.
- ✚ Lung volume reduction surgery is more useful in which type of emphysema → upper lobe emphysema.
- ✚ 25 year old female presented with 3 days history of dry cough and SOB that was preceded by flu like illness. On Examination there is symmetrical erythematous rash with target lesions over the whole body, what is the most likely diagnosis → **Mycoplasma pneumonia**
- ✚ For CABG best source for graft is **Left Internal mammary artery (LIMA)**.

The conduit that provides the best long-term patency is the internal mammary artery, and is today the conduit of choice as a pedicle graft to the left coronary system. Use of the internal mammary artery also confers an immediate survival advantage by reducing operative mortality.

Reference: Braunwald's heart disease

- ✚ To diagnose **allergic bronchopulmonary aspergillosis** which of the following investigation can help in diagnosis → Sputum for fungal hyphae.
- ✚ How to differentiate between cardiogenic and non cardiogenic pulmonary edema → PCWP.
- ✚ Post renal transplant most common infection is → CMV.
- ✚ Best treatment for pericarditis is → NSAIDS.
- ✚ ERCP induced cholangitis is caused by → ECOLI.
- ✚ PNH is **Acquired** hemolytic disorder.

#### Allergic bronchopulmonary aspergillosis (ABPA):

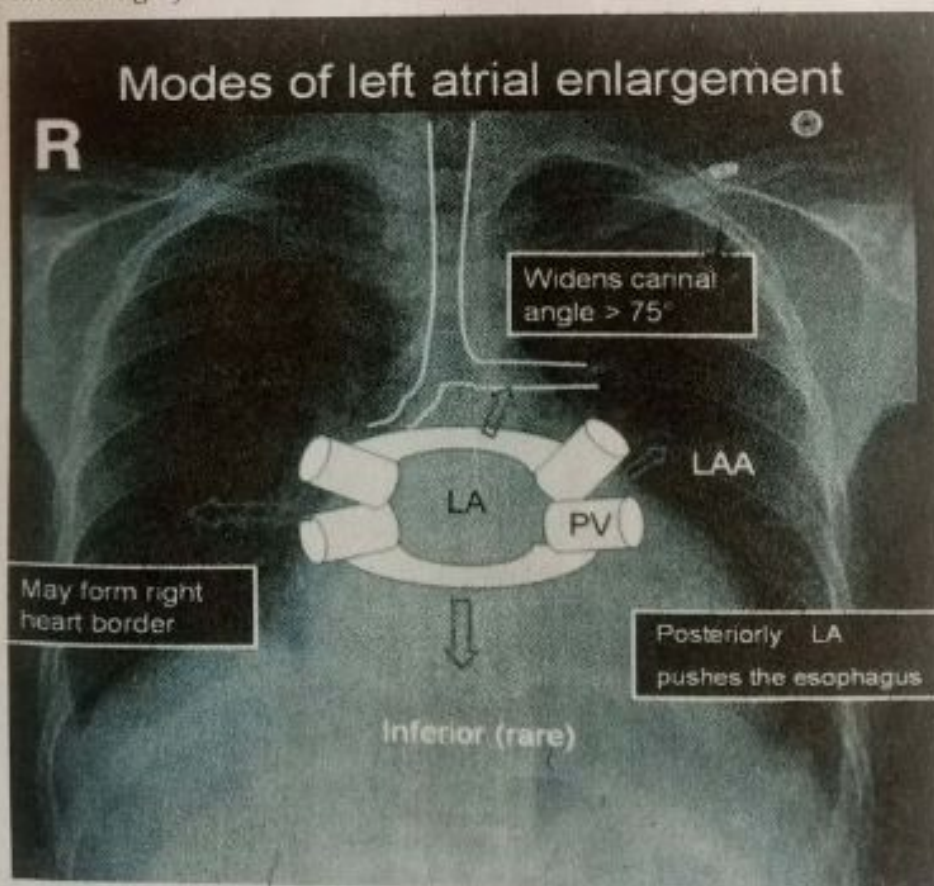
Results from type I and III hypersensitivity reactions to *Aspergillus fumigatus*. Affects 1-5% of asthmatics, 2-25% of CF patients. Initially bronchoconstriction, then permanent damage occurs causing bronchiectasis. Symptoms: wheeze, cough, sputum (plugs of mucus containing fungal hyphae), dyspnoea, and 'recurrent pneumonia'.  
**Investigations:** CXR (transient segmental collapse or consolidation, bronchiectasis); *Aspergillus* in sputum; positive *Aspergillus* skin test and/or *Aspergillus*-specific IgE RAST (radioallergen sorbent test); positive serum precipitins; eosinophilia; raised serum IgE. **Treatment:** prednisolone 30-40mg/24h PO for acute attacks; maintenance dose 5-10mg/d. **Itraconazole** can be used in combination with corticosteroids. Bronchodilators for asthma. Sometimes bronchoscopic aspiration of mucus plugs is needed.

- 4 Which of the following is the treatment option for bronchiectasis → Antibiotics plus postural drainage.

**Management:**

- **Postural drainage:** Is the cornerstone to treating bronchiectasis and should be undertaken at least once per day and more frequently during exacerbations. **Physical training** (e.g. inspiratory muscle training) - has a good evidence base for patients with non-cystic fibrosis bronchiectasis
- **Antibiotics for exacerbations** + long-term rotating antibiotics in severe cases
- **Bronchodilators in selected cases**
- **Immunisations**
- **Surgery in selected cases** (e.g. Localised disease) when underlying causes

- 4 Most common cause of community acquired pneumonia is streptococcus pneumoniae.
- 4 Villous adenoma of colon can cause colon to leak potassium leading to → hypokalemia.
- 4 Post exposure prophylaxis against rabies is given at 0,3,7,14 and 28 days.
- 4 Left atrial enlargement leads to elevated left bronchus (widening of carinal angle).





- ✚ A patient was admitted in ICU, his TFTs were done that showed low T3, low T4 and low TSH, what is your diagnosis → Sick Euthyroidism.
- ✚ Hypersensitive carotid sinus syndrome is diagnosed by → Carotid sinus massage with ECG and BP monitoring. (with carotid sinus massage there is cardioinhibitory response and fall in systolic BP. It can be positive in elderly).
- ✚ Agraphia is consistent with the lesion in → Parietal lobe.
- ✚ There is 80 percent of carotid artery on carotid Doppler, How to proceed → Endarterectomy.

**Indications for carotid endarterectomy:**

- Symptomatic patients with greater than 70% stenosis (NASCET).
- Symptomatic patients with 50-69% stenosis.
- Asymptomatic patients with greater than 60% stenosis.

- ✚ Type I hyperlipidemia (hyperchylomicronemia) is due to → Lipoprotein Lipase deficiency.
- ✚ Violaceous colored papules and plaques on the volar aspect of wrist and flexors, in a patient who is HCV positive → Lichen planus.
- ✚ ACE inhibitors were prescribed to young male who was hypertensive and now the patient presented with SOB and chest examination shows bilateral crepts what is your diagnosis → Renal artery stenosis.
- ✚ A patient was on some antiepileptic drugs now presented with serious skin lesions in the form of blisters and erosion and there was epidermal detachment involving greater than 30 percent of total body surface area, there was multi site mucosal involvement, what is your diagnosis → Toxic epidermal necrolysis.

- **Steven Johnson syndrome:** Epithelial detachment involving less than 10 percent of body surface area.
- **Overlap:** 10 to 30 percent of epithelial detachment.
- **TEN:** Greater than 30 percent of epithelial detachment.

- ✚ Painful 3<sup>rd</sup> nerve palsy is characteristic feature of → Posterior communicating artery aneurysm.
- ✚ Byssinosis is associated with → Wool factory worker.
- ✚ Lab investigations for SLE patient were performed which shows increase aPTT. He is at increase risk of → DVT. **Explanation:** Secondary APS syndrome is most commonly associated with SLE and the lab investigations in case of APS shows paradoxically increased aPTT.
- ✚ Which of the following condition is associated with rapidly developing hypokalemia → Vomiting.

- ⚡ Patient was started on antipsychotics now he developed fever, lead pipe rigidity, On examination he is febrile and diminished reflexes, tachycardia and normal sized pupils, Lab investigation shows high CPK level, what is your diagnosis → Neuroleptic malignant syndrome.
- ⚡ 35 year old man with the history of schizophrenia is brought to the emergency department by worried friends due to drowsiness, O/E he is generally rigid and febrile what is the most likely diagnosis → **Neuroleptic malignant syndrome.**
- ⚡ Patient presented with basal cell cancer, sebaceous tumors and actinic keratosis, what is the associated malignancy? → Colon cancer. (Muir tourre syndrome).
- ⚡ Patient is diagnosed case of Rheumatoid arthritis suddenly developed calf muscle pain and swelling, what is the most probable diagnosis → Ruptured baker cyst.
- ⚡ Patient with ulcerative colitis, now developed intractable pruritis, there is dilated biliary tree on ultrasound and ALP is raised, what is your diagnosis → PSC.
- ⚡ Elderly patient presented with lethargy and fatigue, there are tear drop cells on the peripheral smear, what is your diagnosis → Myelofibrosis.
- ⚡ What is the initial treatment of pericarditis → NSAIDS.
- ⚡ **PATIENT** with signs and symptoms of pulmonary embolism and circulatory collapse ( hypotention ), what is the best step of management → Administer streptokinase.
- ⚡ **Mocardial stunning:** Acute ischemia. Normal **Resting** blood flow but reduced coronary flow reserve. **LIMITED** left ventricular dysfunction. Recovery occurs 24 to 48 hours after restoration of blood flow or after Revascularization. There is no ultrastructural changes.
- ⚡ **Hibernating myocardium:** Chronic ischemia. There is reduced resting blood flow as well as coronary blood flow reserve. Chronic left ventricular dysfunction. Recovery only occurs after **Revascularization** after weeks to months. There is ultrastructural changes as evident by disassembly of contractile apparatus.
- ⚡ Features of severe mitral stenosis are → Length of murmur increases and opening snap comes closer to S2.
- ⚡ Tapping apex beat, mid diastolic murmur, loud S1, opening snap, malar flush, dysphagia and hoarseness of voice is → mitral stenosis.

Treatment of neuroleptic malignant syndrome is:

- ✓ IV fluids
- ✓ Benzodiazepines
- ✓ Dantrolene
- ✓ Bromocriptine

Always remember that 4% of the patients with UC develop PSC and 80% of the patients with UC develop PSC.



- ✦ Lutembacher syndrome → Combination of ASD + complicated by acquired **Mitral stenosis**.
- ✦ Ventricular pause of more than 3 sec in symptomatic patient needs → Pace maker insertion.
- ✦ IV vancomycin plus rifampicin plus low dose gentamycin empirical treatment of choice in → Prosthetic valve endocarditis.
- ✦ Systolic BP greater than 180 mm/hg and diastolic BP greater than 110 mm/Hg plus no end organ damage is → Hypertensive urgency.
- ✦ Systolic BP greater than 180 mm/hg and diastolic BP greater than 110 mm/hg with end organ damage is → Hypertensive emergency.
- ✦ Treatment of isolated systolic hypertension first line treatment → Calcium channel blockers.(Second line is diuretics).
- ✦ In management of STEMI if primary PCI can not be delivered in 120 minutes then → Thrombolysis should be done.
- ✦ Treatment of aortic dissection **type A** ascending aorta is → Control BP by IV labetalol .Surgery and aortic arch replacement.
- ✦ Type B descending aorta → Control BP by IV labetalol.
- ✦ Never give thrombolysis is → It will kill the patient.
- ✦ Pain abrupt in onset tearing pain radiating to the scapulae and back , unequal pulses in both arms, and diastolic murmur → Aortic dissection.
- ✦ Investigation of choice in aortic dissection is → CTchest with IV contrast.
- ✦ Best initial test is Xray chest showing widening of mediastinum.
- ✦ Previous episode of infective endocarditis is strongest risk factor for infective endocarditis.
- ✦ High blood pressure in the right ventricle and normal in the pulmonary artery is → Pulmonary artery stenosis.
- ✦ **Indications of ivabridine is:**
  - Ejection fraction less than 35%
  - When medical therapy has been failed
  - HR more than 75
  - NYHA class 2
- ✦ Pregnancy plus SVT → adenosine and SVT plus asthma → Verapamil.

⚡ Treatment of cardiogenic shock is:

- Diuretics
- Inotropes
- Intraaortic balloon pump.

⚡ Investigation of choice for mitral valve prolapsed is → ECHO.

⚡ Immunophenotyping is the investigation of choice in → CLL.

⚡ First line treatment in secondary hyperparathyroidism is → calcium acetate.

⚡ Restless leg syndrome management includes → dopamine agonist like ropirinoles.

⚡ PATIENT presented with erosions and blisters on the chest back scalp as well as in the mouth what is your diagnosis → Pemphigus vulgaris.

⚡ What is the first line treatment for post herpetic neuralgia → Amitriptyline. (Sept 2020)

⚡ Which of the following drug should be used to prevent the complication post herpetic neuralgia → Acyclovir. (Sept 2020).

⚡ PATIENT presented with dryness of eyes as evident by positive Schirmer's test, what is the most likely possibility → Sjogren's syndrome.

⚡ Known smoker having chronic history of cough, now presented with weight loss and left sided ptosis and miosis, which of the following investigation can give us clue towards the diagnosis → CXR.

⚡ Patient with the history of recurrent duodenal ulcers presented with MALT lymphoma, what is the best management → H-pylori Eradication.

⚡ Elderly female patient presented with the suspicion of Duchenne muscular dystrophy what is the Initial investigation → CPK plus aldolase.

⚡ Patient having history of stroke now presented with aspiration pneumonia, what are the pathological organisms involved in the aspiration pneumonia → mixed flora (Anaerobes > Aerobes).

⚡ Mouth ulcers and positive Nikolsky sign with cutaneous involvement is seen in → SJS, TEN and pemphigus vulgaris.

For post-herpetic neuralgia:

- Amitriptyline
- Nortriptyline
- Sodium valproate
- Gabapentin
- Pregabalin



- ✚ Nikolsky sign is use to differentiate between pemphigous vulgaris (positive) and bullous pemphigoid (negative).
- ✚ Patient was cardioverted after 4 weeks of prior anticoagulation for how long the anticoagulation should continue post cardioversion → 4 weeks (1 month).
- ✚ Coeliac disease has strong association with → HLA-DQ2 (positive in 95% of patients with coeliac disease).
- ✚ Liver transplant 5 year survival rate is → 70 to 80 percent.
- ✚ Transient elastography is now the investigation of choice to detect → liver cirrhosis.
- ✚ In GBS the FVC is below 1.5 L what is the next step → ITU.
- ✚ 100% carotid artery stenosis needs → Bypass surgery.
- ✚ Narcolepsy is associated with low orexin level.
- ✚ In frontotemporal dementia there is personality changes, disinhibition, and inappropriate social behavior.
- ✚ Lip smacking, post ictal dysphasia, are localizing features of → temporal lobe epilepsy.
- ✚ Carbamazepine is contraindicated in absence seizures.
- ✚ IV lorazepam is the first line treatment in the patient with early status epilepticus.
- ✚ In case of trigeminal neuralgia the first line treatment option is → carbamazepine.
- ✚ Best parameter to monitor GBS is → FVC.
- ✚ First line treatment to prevent vision loss in patient with Idiopathic intracranial hypertension is → urgent LP shunt.
- ✚ Sensory neural deafness, associated with loss of corneal reflex and facial nerve palsy → acoustic neuroma.
- ✚ First line treatment in case of neuroleptic malignant syndrome is → Bromocriptine.
- ✚ Young patient presented with extreme muscle pain after exercise and there is dark urine increase the likely possibility of → McArdle disease. (investigation done is muscle biopsy).
- ✚ Treatment of Huntington disease is → tetrabenazine.
- ✚ Investigation of choice to diagnose carotid artery stenosis is → CT carotid angiogram.
- ✚ Lower limbs are more involved than upper limbs and there is also urinary incontinence is consistent with → Anterior cerebral artery stroke.
- ✚ Upper limbs and face are more involved than lower limbs are more consistent with → Middle cerebral artery stroke.

- ✚ HBeAg is the marker of infectivity.
- ✚ HBV DNA most sensitive index of viral replication.
- ✚ Investigation of Zollinger-Ellison syndrome is → secretin test.
- ✚ Treatment of ZES is → high dose PPIs, octreotide and surgical resection.
- ✚ Obese T2DM, with abnormal LFTS → nonalcoholic fatty liver disease.
- ✚ Antibiotic therapy reduces mortality in cirrhotic patient with gastrointestinal bleeding.
- ✚ Liver failure following cardiac arrest → ischemic hepatitis.
- ✚ Smoking worsens Crohn's disease but improves Ulcerative colitis.
- ✚ Investigation of choice for Barrett esophagus is → Endoscopic biopsy.
- ✚ Management of Gilbert syndrome → no treatment is required (In case of severe jaundice → phenobarbitone).
- ✚ Toxic Megacolon is seen in → UC, pseudomembranous colitis, and ischemic colitis.
- ✚ HBeIgG is produced 14 weeks after exposure and if there is absence of HBeIgM it indicates → Clearance of hepatitis B infection.
- ✚ Terlipressin mechanism of action is → Constriction of Splanchnic vessels.
- ✚ Hepatorenal syndrome is mainly caused by **Splanchnic Vasodilation**.
- ✚ Treatment of Waldenström macroglobulinemia is → initial therapy is Plasmapheresis.
- ✚ Multiple myeloma → Bone lesions with no organomegaly.
- ✚ Hemolytic anemia, pancytopenia and thrombosis is characteristic features of → PNH.
- ✚ M protein less than 30 g/L, bone marrow plasma cells less than 10% no lytic lesions → MGUS.
- ✚ Disproportionate Microcytic anemia is characteristic feature of → Beta thalassemia.
- ✚ Polycythemia rubra vera is associated with → low ESR.
- ✚ Treatment of antiphospholipid syndrome is:
  - For venous thrombosis → warfarin with INR of 2 to 3 for 6 months.
  - Recurrent venous thrombosis → life long warfarin.



- If thrombosis occurred while the patient is on warfarin then increase the INR to 3-4.
- Arterial thrombosis → life long warfarin with target INR of 3 to 4.
- ↓ Young patient, DIC low platelets, Auer rods, t15:17 → acute promyelocytic anemia (RX is ATRA)
- ↓ Among causes of short stature the most common cause is → **Constitutional Delay.**

**Short stature** is a height <3rd centile (p224). Use the method shown on the charts to correct for mid-parental height (short stature may represent 'regression towards the mean' of their heights).  
 • Any chronic disease can cause short stature.  
 Hypopituitarism (an important cause of short stature) usually manifests after age 2yrs: look for relative obesity, without any other explanation for low growth velocity (ie <25th centile, measure for ≥1yr, see p226). Deficiency of growth hormone (GH) is shown by an impaired rise (peak GH <15mu/L) after a stimulus (eg sleep or hypoglycaemia, induced by iv insulin (OHCM p224), or an arginine stimulation test. Preschool screening for short stature is the aim. To be effective, start synthetic GH early. **Somatotropin** example: 23-39mcg/kg/day sc; expect growth velocity to ↑ by ≥50% from baseline in year 1 of treatment. Other pituitary hormones may also be deficient (OHCM p224). **Causes of height:** Thyrotoxic; precocious puberty; Marfan's; homocystinuria. **Causes of weight:** (p156) Snacks<sup>++</sup>; not enough exercise; hypothyroidism; Cushing's; Prader-Willi, p652; Bardet-Biedl, p638; Cohen syndrome (hypotonia, obesity, prominent front teeth; seizures); polycystic ovary syndrome, p252.<sup>++</sup>

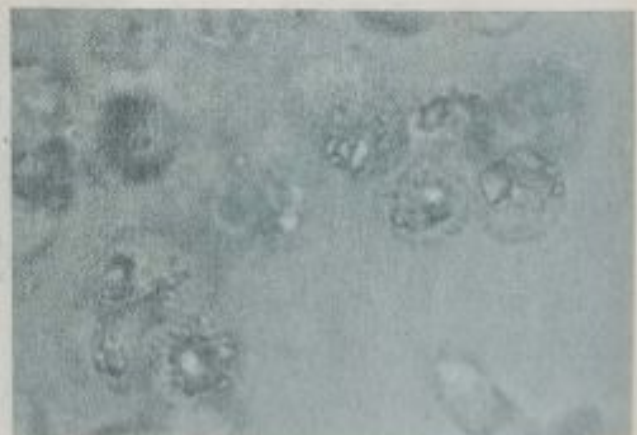
#### Typical causes

- **Constitutional (~80%)** — if both parents short
- Psychological neglect
- Poverty; physical abuse
- Drugs: eg steroids
- Genetic: eg Turner's or cystic fibrosis
- Ineffective diet (coeliac)
- Inflammatory bowel dis.
- Hypothyroidism
- Infection (eg UTI, TB)
- GH↓ (as above)
- Rarities, eg Noonan, p650

- Xray of hand in case of psoriatic arthropathy shows pencil in a cup deformity.
- Calcium pyrophosphate crystals in a joint showing positive birefringence are consistent with → Pseudogout.



• Needle-shaped monosodium urate crystals found in gout, displaying negative birefringence under polarized light.



Rhomboid-shaped calcium pyrophosphate dihydrate crystals in pseudogout, showing positive birefringence in polarized light.

- Patient is newly diagnosed as diabetic, he is having slightly raised sugar what will be your management plan → Control blood sugar with diet and Exercise.
- Cirrhotic patient presented with upper GI bleed and deranged RFTS, he is having urinary sodium of 50 meq/ liter what is your diagnosis → ATN ( in case of hepatorenal syndrome the urinary sodium will be less *then 10 meq/ liter*.

When high levels of accompanied by raised bil serum creatinine and ↓ sodium, this suggests failure, which carries a

	Pre-renal uraemia	Acute tubular necrosis
Urine sodium	< 20 mmol/L	> 40 mmol/L
Fractional sodium excretion*	< 1%	> 1%
Fractional urea excretion**	< 35%	> 35%
Urine osmolality	> 500	< 500
Urine: plasma osmolality	> 1.5	< 1.5
Urine: plasma urea	> 10:1	< 10:1
Specific gravity	> 1020	< 1020
Urine	'bland'	'pigment'
Response to fluid challenge	Improves	No improvement

- Diabetic patient with IHD presented with chest pain on auscultation he is having bilateral crepts in lungs, which drug will you stop → Pioglitazone (causes fluid retention).

The following medications may exacerbate heart failure

- ⊕ Pioglitazone is contraindicated as it causes fluid retention
- ⊕ Verapamil: negative inotropic effect
- ⊕ NSAIDs/glucocorticoids: used with caution
- ⊕ Class I antiarrhythmics; Flecainide
- ⊕ Flecainide is contraindicated in patients with heart failure

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- Aline R/E, what drug will you start to prevent progression to diabetic nephropathy → ACE inhibitors.

Young patient of the following drug has no role in NSTEMI → tPA.  
acute promyelocytic presented with bilateral flank pain, he is having  
Among causes of hypokalaemia what is the likely diagnosis among  
→ Constitutional hypokalaemia options given → RTA type 1. (Complications  
include nephrocalcinosis and renal stones).

Short stature is a clinical sign that can be caused by many different factors. The method shown here is a simple way to estimate the mid-parental height. If the child is not growing at the expected rate, the next step is to consider the options for treatment. Vitamin K plus FFPs is a common treatment for bleeding disorders.

Any chronic disease  
popituitarism (an in life threatening arrhythmias.  
iture) usually manifest

of hepatitis B treatment → To reduce growth velocity (ie <2

shown by an impaired rise in FEV1 in response to a stimulus (eg sleep or hyperventilation) → FEV1 less than 65%.

To be effective, start synthe

it. Other pituitary hormones  
**Thyroid:** Thyroid hormones

**weightt:** (p156) Snacks<sup>ntc</sup>; not  
der-Willi, p652; Bardet-Bied

...; 1952, Gardner-Bled  
ninent front teeth; seizures);

7 of hand in case of psoriatic arthritis.

istant with  $\rightarrow$  Pseudogout.

Bronchial provocation testing with inhaled histamine or methacholine may be useful when asthma is suspected but episodic.

location is not recommended if the FEV<sub>1</sub> is less than 80% of predicted. A positive methacholine test is defined

...in the FEV<sub>1</sub> of 20% or more at exposure to a ... concentration of less than or equal to

negative methacholine test has a negative predictive value for asthma of 95%. Exercise challenge tests may be useful in patients with a negative methacholine test.

duced bronchospasm.



needle-shaped monosodium urate found in gout, displaying negative birefringence under polarized light.